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1 UNITED STATES DISTRICT COURT
2 SOUTHERN DISTRICT OF NEW YORK

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3 SECURITIES AND EXCHANGE
4 COMMISSION

Plaintiff,

v.

23 Civ. 1346 (JSR)

6 TERRAFORM LABS PTE LTD. , et
7 al.

8 Defendants

9 -----x

10 New York, N.Y.
11 April 4, 2024
12 9:23 a.m.

Before:

13 HON. JED S. RAKOFF

14 District Judge
15 -and a Jury-

16 APPEARANCES

17 UNITED STATES SECURITIES AND EXCHANGE COMMISSION

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1 (Trial resumed; jury not present)

2 THE COURT: Good morning. So thank you for your
3 submissions on the charge on the 5th Amendment, which I thought
4 in both cases was an improvement on *Sand, et al.*, and I will
5 sort of combine what you both gave me into something you'll see
6 later this morning.

7 With respect to the SEC's request for preparation of
8 witness instruction status of whistleblowers and risk
9 disclosures, etc., we'll take all that up at the charging
10 conference.

11 The reason I wanted to know who the lawyers were who
12 would be giving the closing arguments is because they -- well,
13 they're more than welcome to stay at the charging conference.
14 Since they'll be summing up tomorrow, I want those lawyers to
15 know they're free to not be part of the charging conference if
16 they prefer and leave that to the other people, that's totally
17 their call. But I wanted to give that opportunity since I'm
18 sure anyone preparing closing arguments usually needs as much
19 time as they can get.

20 So anything else we need to take up this morning?

21 MR. CONNOR: Yes, your Honor. We have two evidentiary
22 issues. The first is we understand after Professor Hendershott
23 testifies --

24 THE COURT: Yes, the witness should not be in the
25 courtroom.

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1 MR. CONNOR: We understand that after Professor
2 Hendershott testifies, the defense intends to admit -- seek to
3 admit certain documents. And while we don't dispute that these
4 are authentic documents, they are hearsay. One of them in
5 particular, DX 1965, has a statement in there that in effect
6 Chai runs on the blockchain. And they're seeking to introduce
7 that as I understand it for the truth of the matter asserted,
8 which is not proper. And the second --

9 THE COURT: Well, let's take up that one first. So
10 what about that?

11 MR. CALIFANO: Excuse me, your Honor. I understand
12 you are talking about the five documents on your declaration
13 that we seek to admit.

14 THE COURT: So they're not challenging the
15 authenticity. They're challenging the first document. What
16 was the number again?

17 MR. CONNOR: DX 1965.

18 THE COURT: On hearsay grounds.

19 MR. CALIFANO: Your Honor, we're not offering the -- I
20 want to make sure -- apologies, your Honor. Was Mr. Connor
21 discussing the Chai aspects of what's in this?

22 THE COURT: Yes. Yes.

23 MR. CALIFANO: Thank you. We're not offering it for
24 the truth of anything on the Chai issues, your Honor. The
25 issue that we're discussing with respect to each of those first

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1 three documents, and I just want to give the Court a little bit
2 of context.

3 As you may recall, about two weeks before we began
4 trial, there was a new production of documents of about
5 1.4 million or so pages. We have been trying to go through
6 those as quickly as we can. We're not finished but we have
7 identified three documents from that collection, each of which
8 explicitly announce and discuss contemporaneously the progress
9 in the loan agreements that Jump was making with Terraform
10 Labs. And that's the reason these documents are sought to be
11 admitted. One, because they are contemporaneous records of
12 both discussions about it, in the first instance with the first
13 document. The actual entering of the loan agreement, which is
14 the second document. And then the third document, they again
15 discuss recent meetings and discussions about supporting the
16 ecosystem.

17 The relevance for the defendants is that in each one
18 of those they discuss market making and supporting the
19 applications on the blockchain. Which is different than what
20 the SEC says Jump was doing, which was doing price support. We
21 intend to argue that these documents support the defendants'
22 position that what Jump was doing was providing liquidity as
23 they indicate in these documents and we're --

24 THE COURT: So they are being offered for the truth?

25 MR. CALIFANO: For those aspects, yes.

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1 THE COURT: So why --

2 MR. CALIFANO: Business records.

3 THE COURT: Why isn't it classic hearsay?

4 MR. CALIFANO: Because, your Honor, these were created
5 at or about the time of the events described in question and
6 they are used by Jump in order to organize their teams to do
7 exactly what they say they are doing --

8 THE COURT: I'll take a look at the documents. If
9 someone can get me hard copies.

10 MR. CALIFANO: We'll get you copies.

11 THE COURT: All right. Hand them up.

12 MR. CONNOR: May I approach, your Honor?

13 THE COURT: Yeah. And we'll discuss it further after
14 the break I've had.

15 I really feel that we should not keep, as we have too
16 often, the jury waiting. Are they all here? No, they're not
17 all here. Well, then we can continue.

18 MR. CALIFANO: Yes, and, your Honor --

19 THE COURT: Well, there's one other --

20 MR. CALIFANO: There's one other set of documents in
21 there. We've described the three. The fourth and fifth
22 documents regard the e-mailing of a draft loan agreement. And
23 that draft loan agreement is part of rebuttal evidence in
24 response to the summary witness who had testified that they did
25 not include the draft agreement on their timeline. So the

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1 defendants would like that agreement considered by the Court
2 and by the jury.

3 THE COURT: All right. We'll take all this up at the
4 break.

5 MR. CALIFANO: Thank you, your Honor.

6 THE COURT: Now, my understanding from my courtroom
7 deputy is that Juror No. 2 called in and said she was very
8 sick, vomiting and things like that. So I think we'll need to
9 excuse Juror No. 2. But are the other jurors here?

10 THE DEPUTY CLERK: I'll check.

11 THE COURT: We'll check. Okay.

12 So while we're waiting, I'll take a look at the
13 documents that were handed up.

14 MR. CONNOR: Your Honor, and while we have a second,
15 we did have one other issue that we wanted to raise now.

16 THE COURT: Go ahead.

17 MR. CONNOR: The second issue is, as we understand it,
18 the defense also intends to call a document custodian from Jump
19 to talk about certain of the deal tracking system. And we
20 object because this is not typical custodian of records
21 testimony. It's unfair surprise to the SEC. What we
22 understand from defense counsel is that they seek to talk to
23 the document custodian about the nature of how this worked.
24 And as we understand it, they essentially intend to use it to
25 rebut our whistleblower testimony, James Hunsaker.

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1 So if they want to put that testimony and challenge
2 Mr. Hunsaker, they should have done that while he was on the
3 stand. And it's not appropriate for them to do it now
4 especially because they haven't raised this issue before I
5 think last night.

6 THE COURT: So was this witness on their witness list
7 as anything other than a custodial?

8 MR. CONNOR: No, just a custodian of records.

9 THE COURT: Custodial witness can't testify to
10 anything other than custodial.

11 MR. LAFFERMAN: Your Honor, all the document custodian
12 is going to testify to is how the confluent system, which is
13 the deal tracker system it's based on, works and generates
14 e-mails out, which provides essentially like authenticates the
15 document, which are the deal tracker documents, to show, you
16 know, why they were sent at the time they were sent.

17 THE COURT: I see my courtroom. How we doing?

18 THE DEPUTY CLERK: All here.

19 THE COURT: All here. Let's get the witness on the
20 stand and bring in the jury and we'll take this up further at
21 the next break.

22 (Continued on next page)

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Hendershott - Direct

1 (In open court; jury present)

2 THE COURT: So as you may have heard, Juror No. 2 is
3 ill, so we've had to excuse her. That's why we have -- just
4 for you might be interested to know, in a civil case, the
5 minimum number of jurors is six. We have seven. You all look
6 very healthy to me. So, in any event, that's why we choose
7 nine because these things sometimes do happen.

8 All right. We're ready to continue with the witness.

9 MR. HENKIN: May I, your Honor.

10 THE COURT: Please.

11 Terrence Hendershott, resumed.

12 DIRECT EXAMINATION CONTINUED

13 BY MR. HENKIN:

14 Q. Professor, good morning.

15 Before we jump back into talking about your opinions,
16 I wanted to spend some time defining some terms that have been
17 talked about during the trial.

18 We had ended yesterday with you talking about
19 bookstacker being how Jump built the long position in UST in
20 May 2021. What is a long position in an asset?

21 A. So a long position is when you own the asset. So a short
22 position is when you've borrowed it from someone and sold it,
23 and then you have to pay somebody back so you're short. But a
24 long position is just when you buy things. Like in my
25 retirement account, I have long positions in index funds.

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Hendershott - Direct

1 Q. And --

2 THE COURT: So a long position is expecting or hoping
3 that the price will go up, and someone who is short is hoping
4 that the price will go down; is that right?

5 THE WITNESS: Well, I mean, in general you're trying
6 to earn some return so, yes. You would benefit if your long if
7 prices go up.

8 THE COURT: And the reason someone would sell short is
9 usually because they expect the price to go down?

10 THE WITNESS: That's often a motivation. The other
11 motivation is to hedge.

12 THE COURT: All right. Go ahead.

13 BY MR. HENKIN:

14 Q. And what is directional trading?

15 A. So directional would be if you're building a long position,
16 so if you just keep buying, you're trading in that -- you're
17 trading in the buy direction. You could also, if you're
18 selling short, as the Judge was talking about, then you could
19 just keep selling short and you would -- you would keep trading
20 in the same direction.

21 Q. And what is arbitrage?

22 A. Arbitrage is when there are two related assets and you buy
23 one and sell the other. You think that there's a difference in
24 price that you think you can capture. So you're trying to
25 arbitrage that difference between them.

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Hendershott - Direct

1 Q. And what's an arbitrage opportunity?

2 A. An arbitrage opportunity, so in this case, if UST was below
3 a dollar, and you could buy it, and then you would go through
4 the mint and burn, and you may have some fees and costs
5 associated there. And then you would get some Luna and you
6 would get a dollar's worth of Luna. And then you would sell
7 that. And if the difference between the UST that you -- what
8 you paid for the UST and what you sold the Luna for was --
9 that's positive, then that's an arbitrage opportunity.

10 Q. And is there something called algorithmic trading?

11 A. Yes.

12 Q. What is it?

13 A. So that's when a firm or a person would use a computer
14 program to help them trade. They might put some parameters in,
15 they would have some logic in that would decide how to place
16 the orders, what prices to place them at, how much to buy or
17 sell. So it's when you program a computer to help you with
18 your trading. You write an algorithm to do it.

19 Q. And you said there might be some logic. Can you tell the
20 jury what you mean by that?

21 A. Well, if you are trying to accumulate a long position, you
22 might have logic in it to think, well, I want to accumulate it
23 over a certain period of time, so I need to buy so much. Or
24 there might be a price limit on how much I want to buy. And so
25 there would be logic about how you would go about achieving

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Hendershott - Direct

1 your goals.

2 Q. But just explain to the jury what form the logic takes? Is
3 that program code or something else?

4 A. It's program code.

5 Q. Okay. In simple terms, what is the mint-burn mechanism?

6 A. The mint-burn mechanism was, as described in the Terraform
7 white paper, was designed to allow people to either swap Luna
8 for Terra or Terra -- or UST for Luna. So it was a way of
9 going back and forth between the two, the two crypto assets.
10 So you would give up one and that would be erased and then you
11 would get the other one.

12 Q. And was it a smart contract that operated on the Terra
13 blockchain?

14 A. Yes. That's the technical way of describing it.

15 Q. So can you explain to the jury what a smart contract is?

16 A. Well, so a smart contract is, it's like regular contract,
17 but it's programmed in computer code. So it has a sequence of
18 steps that would have to be met. So if I wanted to turn my UST
19 into Luna, there would be the steps of giving up my UST and
20 then getting the Luna. And you would like to put those two
21 together, so when you give up your UST you're sure you'll get
22 the Luna.

23 Q. And where does a smart contract live so to speak? Where is
24 it located? Where is a smart contract located?

25 A. Well, I mean, you often would put it on the blockchain but

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Hendershott - Direct

1 it could be located somewhere else as well. But if you're
2 doing everything on the blockchain, it could be part of that.

3 Q. What are on-chain transactions?

4 A. So on-chain transactions are like the mint and burn. So if
5 I want to turn my UST into Luna, I could do that directly on
6 the blockchain through mint and burn.

7 Q. And what are off-chain transactions?

8 A. So the blockchain is like a database. It holds who owns
9 all the different coins. And off-chain would be an exchange,
10 and that would be like the New York Stock Exchange or something
11 like that, where then the buyers and sellers can come together,
12 but then they would -- there would be -- the way the trade is
13 settled would be done not necessarily directly on the
14 exchange -- I'm sorry, on the blockchain.

15 Q. And would an example of an off-chain transaction be
16 something like buying Bitcoin on KuCoin?

17 A. Yes.

18 Q. We've heard the words "peg" and "pegged" used a lot in this
19 case. What do those words mean?

20 A. Well, so in this case, UST was designed to be a stablecoin,
21 and by stable they meant it was -- it would -- it was designed
22 to give people incentives to keep the price at \$1. And so it
23 was designed to be pegged to \$1. And that's how the mint and
24 burn was the mechanism that would give people an incentive to
25 keep it at \$1.

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Hendershott - Direct

1 Q. And what does it mean for an asset to depeg?

2 A. So a depeg would be when if it's a stablecoin and it
3 doesn't -- it no longer trades for a dollar. So it's no longer
4 the peg isn't holding. Now, usually people refer to it if the
5 price would deviate by more than a penny, because you might
6 have some small fluctuations, but if it falls below 99 cents,
7 for example, that would often be referred to as a depeg.

8 Q. What does it mean for an asset to repeg?

9 A. Well, if it falls below 99 cents and then comes back above
10 99 cents. The depeg is falling below and the repeg is getting
11 back close now to a dollar.

12 Q. Dr. Mizrach's opinions address something that he calls the
13 mid quote. Can you explain to the jury what that is?

14 A. So when you're trading, this is true on the New York Stock
15 Exchange and most financial markets, usually there are quoted
16 prices at which you can buy and sell. So if I want to trade
17 right now, I can pay the ask price. Or if I want to buy right
18 now or "hit the offers" it's sometimes called, and then there's
19 a slightly lower price than if I want to sell.

20 So usually if I want to buy and sell right at the same
21 time, I cannot sell for quite the same price. And we call that
22 difference the spread. So we have the buy price and the sell
23 price, and the mid price is just the average of those two. So
24 it's the middle price between the bid and the ask are the price
25 at which you can buy and sell.

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Hendershott - Direct

1 Q. And when market microstructure experts talk about price
2 impact, what does that mean?

3 A. So price impact is about how when you see buys and sells,
4 so usually when you think about a trade, it's either we talked
5 about the two quotes. And someone actively trades, will hit
6 one of those quotes, so if a buyer wants to trade right now,
7 he'll buy at the slightly higher price. And then the price
8 impact is, well, how much do the prices change after you see a
9 buy or a sell trade? So it's meant to be the impact on price
10 of trading.

11 Q. Of an actual trade that actually occurs?

12 A. Yes.

13 Q. All right. Professor Hendershott, let's go back to where
14 we left off yesterday. Can we bring up slide seven, which we
15 have already discussed, and also publish it to the jury.

16 Okay. Professor Hendershott, we were talking about
17 these opinions yesterday before we broke, and can you tell the
18 jury what you reviewed to reach these opinions?

19 A. To reach these opinions, I reviewed the trading data that's
20 been produced in this case, so there's trading from centralized
21 exchange. There's third-party documentation in terms of, you
22 know, who some of the material that was produced by some large
23 trading firms, including Jump, and I looked at other -- some
24 other documents in the case, and Dr. Mizrach's reports.

25 Q. And specifically did you review the data that was produced

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Hendershott - Direct

1 as part of Dr. Mizrach's report itself?

2 A. Yes.

3 Q. So was all the data that you reviewed available to
4 Dr. Mizrach?

5 A. Yes.

6 Q. What methodology did you use to form your opinions?

7 A. I use the same methodology as I do when I'm doing my
8 academic work. So when I'm writing papers, I use the same
9 methodology here as I did there. When I'm reviewing or editing
10 other people's papers, I use the same approach there as I did
11 here today. Or in this case.

12 Q. Let's take this down, please.

13 Professor Hendershott, do you have charts to explain
14 what happened with the price of UST around the May 2021 depeg
15 as it relates to Jump's trading?

16 A. Yes, I do.

17 MR. HENKIN: At this point, your Honor, we'd like to
18 have Professor Hendershott put up some charts that he's going
19 to use as part of his testimony on the easel there.

20 THE COURT: Okay.

21 MR. HENKIN: Actually, I should ask, your Honor, is
22 the positioning okay that --

23 THE COURT: Well, if the SEC can see it --

24 MR. HENKIN: Yes, let's try.

25 THE WITNESS: Will it also project up on the screen?

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Hendershott - Direct

1 MR. HENKIN: Yeah, we will project on the screen.

2 THE COURT: Oh, if you're going to project them on the
3 screen, we don't need on the charts then.

4 MR. HENKIN: But Professor Hendershott is going to
5 want to point to various things during his testimony.

6 THE COURT: Okay. These are not in evidence. These
7 are just aids.

8 MR. HENKIN: That's correct, your Honor. These are
9 just demonstratives. I think we should move them if
10 possible --

11 MR. CARNEY: Your Honor, would it be okay if I
12 positioned myself so I can --

13 THE COURT: That's probably -- no, no, just stop. You
14 may go where you can see it.

15 MR. CARNEY: Thank you, your Honor.

16 BY MR. HENKIN:

17 Q. Professor, do you often create charts like the ones we're
18 looking at now as part of your research?

19 A. Yes, I do because you want --

20 THE COURT: Sustained. Come on. Let's move this
21 along. It's totally irrelevant whether he often prepares
22 charts or not. He's got one here. Let's move it.

23 Q. Professor Hendershott, did Jump engage in both active and
24 passive trading?

25 A. Yes.

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Hendershott - Direct

1 Q. And between nine -- can you show on the charts what you
2 mean by active and passive trading and where it starts and
3 stops?

4 A. So the chart plots the graph of UST around the depeg. So
5 it's from 5:00 a.m. on May 23rd until the morning of the 25th,
6 so it's about two days. And the points are the prices every
7 two minutes. And the X's, the green and red X, correspond to
8 bookstacker starting and stopping at 5:00.

9 So from the first green to the first red is the first
10 time it started buying, and then it stopped buying between the
11 red and the green. And then it started buying here again. And
12 there are three times when it was buying. And so the green and
13 red were designed to start and stop.

14 Q. And can you show -- was it important that -- did prices
15 recover without Jump's trading?

16 MR. CARNEY: Objection. Leading.

17 Q. Were there times when prices recovered without Jump being
18 in a trading position at that time?

19 A. Yes. You can see that. So before the first green X when
20 Jump hadn't started using bookstacker yet, prices went down and
21 then recovered. And then you can see it. So they stop there,
22 and before they started again, prices go down and then they
23 recover. And here they're not trading and they go up and then
24 down a little bit.

25 Q. Professor, can you change the chart to the one that focuses

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1 on the 23rd.

2 A. Yes. So you can see how close together the green and red
3 are there, so it's kind of hard to see what's going on, so I
4 made a separate one that just covers right around that same
5 time.

6 Q. And, Professor Hendershott, if you focus on the morning,
7 what happened to the price of UST between 9:10 and 9:30 central
8 time?

9 A. So you can see it's about 97 cents and then it falls a
10 little bit. And right around 9:10, the price falls to pretty
11 much its lowest level of the day, below 92 cents, and then it
12 recovers back just a little bit below where it was before and
13 it stays steady for about 15 minutes.

14 Q. And was that before Jump began trading using the
15 bookstacker?

16 A. Yes. That's before the green X, which is the first time
17 they started buying with bookstacker that day.

18 Q. So am I correct in reading this chart that there was a
19 price rebound before Jump made purchases using bookstacker?

20 MR. CARNEY: Objection. Leading.

21 Q. What happened to the price of UST before Jump turned on
22 bookstacker at 9:30?

23 A. Well, as you can see, it had declined and then recovered
24 and was somewhat stable before they started.

25 Q. When did Jump stop trading during this period using

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1 bookstacker?

2 A. And so that's the red X here. It's a little after
3 10:00 a.m. And so this was about a half-hour period.

4 Q. And what happened -- strike that.

5 When was the next time that Jump turned on the
6 bookstacker algorithm?

7 A. So going back to the longer chart because it's well after
8 this time. So this was about 10:00 a.m. and then it was off
9 until -- for about seven hours. And then it came back on about
10 5:00 p.m. You can see that was the other green dot here.

11 Q. And between 10:00 a.m. central time and I think you said it
12 was about 5:00 p.m. central time?

13 A. Yes.

14 Q. What happened to the price of UST?

15 A. You can see the price declined and it stabilized a little
16 bit. It declined and stabilized, then it declined. Actually,
17 I was wrong, the lowest point is about 3:30 p.m. And then it
18 recovered, recovered maybe 4:00.

19 Q. And that was before Jump turned on bookstacker again?

20 A. Yes.

21 Q. What happened to the price of UST between let's say
22 3:00 and 3:30 p.m. central time that day?

23 A. Well, as we just talked about, it declined and then
24 recovered. And bookstacker was not buying during that time
25 period.

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1 Q. What happened to the price of UST on May 24th?

2 A. So on May 24th, so that would start about midnight here, so
3 the price is stable here. Then bookstacker is turned off at
4 about 3:00 a.m. central time, and it stops buying. And then
5 the price increases steadily after that while bookstacker is
6 not buying. It increases from, you know, maybe 96 cents to
7 just a little below 99 cents. And then it remains stable there
8 and about 9:30 a.m. bookstacker is turned on again and starts
9 buying.

10 Q. And that's all on May 24th?

11 A. That's all on May 24th.

12 Q. And then lastly, can you talk to the jury about what
13 happened to the price of UST on May 25th?

14 A. So bookstacker was on for a little while. Price is stable.
15 Then on the 25th here you can see it's at the same level. It
16 remains there. And then maybe about 5:00 a.m., it pops up and
17 that's the first time it gets above 99 cents.

18 Q. And with respect to the prices that you were just
19 describing, was bookstacker on during those times?

20 A. No. Bookstacker was turned off on the 24th at about
21 6:00 p.m., and did not buy for the rest of this chart.

22 Q. So looking at Jump's trading and the price of UST over the
23 course of the three days that we -- of the two and change days
24 that we've been talking about, what did you conclude?

25 A. Well, I concluded that prices recovered without Jump's --

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1 when Jump wasn't buying. So prices are going up and down. You
2 know many of -- Jump is buying after prices have already
3 increased. You can see that here. You can see that here. And
4 you can see that there.

5 Q. Thank you, Professor. I think would you mind taking those
6 charts down and putting them back where they were.

7 Professor, of the trading by Jump that you were
8 describing on the charts, how much of all of the market
9 purchases were by bookstacker?

10 A. About 10 percent.

11 Q. And what does that tell you about whether Jump could have
12 caused the repeg?

13 A. Well, there were many other buyers. So Jump was, you
14 know -- 90 percent of the buys were not by bookstacker. So
15 those would be important to examine to understand what happened
16 especially during the times when prices increased when
17 bookstacker wasn't buying.

18 Q. And is that what you were talking about as being part of a
19 price impact analysis?

20 MR. CARNEY: Objection. Leading.

21 THE COURT: I'll allow it.

22 A. So one would want to look at the price impact of all
23 trades, not just of bookstacker or Jump.

24 Q. Before we kind of go forward with the rest of this
25 discussion, could you explain to the jury what the difference

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Hendershott - Direct

1 is between active and passive trades?

2 A. And so when I talked about the mid quote, I talked about
3 the ask price and the bid price, the price at which you can buy
4 and sell at. So when I'm trading passively, that's when I look
5 at those prices and I think -- well, let's say I'm a buyer. I
6 look at the price at which I have to buy and I decide, well,
7 that's too high. So I don't want to trade, I'm not willing to
8 pay that high price to trade right now. So I'll put my order
9 in and it will be at a lower price and I'll hope a seller comes
10 along and will be willing to sell to me at that lower price.

11 Q. And what form of trade is that? Is that active or passive?

12 A. That's passive.

13 Q. That's passive. And what's an active trade?

14 A. So an active trade is when I'm willing to trade right now.
15 So you can think of passive as I'm patiently waiting for a
16 better deal to come along. And actively is when I say, I want
17 to trade immediately so I'll pay the price I have to pay to
18 trade right now.

19 Q. So when you were talking about passive trading, how does
20 passive trading generally impact prices?

21 A. Because you're willing to wait to get a better price. And
22 especially in a model like Dr. Mizrach used, it's often
23 associated with a negative price impact, in the sense when you
24 trade, it's because if I'm a buyer, it's because a seller comes
25 and wants to trade right now. And so on average, the

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1 literature has found that prices go down after that. So that's
2 what we mean by a negative price impact. If you're buying and
3 after you buy, prices go down.

4 Q. You talked about a model like the one Dr. Mizrach used.
5 Have you written papers about this subject?

6 A. A number, yes.

7 Q. And did those papers confirm what you were describing as
8 the general impact of passive orders?

9 A. Yes. So in a model that only looks at trades, the passive
10 trades are associated with a negative price impact. That
11 result predates me and my papers.

12 Q. So now let's talk about active orders. How do those impact
13 prices?

14 A. Well, so those have a positive price impact. So if I'm a
15 buyer and I want to trade right now and I buy at the higher
16 price, then prices usually go up after that. So that's what we
17 mean by a positive price impact. If I buy, do prices go up
18 afterwards? Or if I sell, do prices go down afterwards? And
19 that tends to -- that's what the literature has found about
20 active trading is associated with positive price impacts.

21 Q. Did you review Jump's trades to compare which ones were
22 active versus passive?

23 A. Yes. There was a field in the Jump data that stated
24 whether or not they were aggressive or active or passive.

25 Q. So when you say there was a field in the data, does that

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1 mean that's how Jump characterized its own trades?

2 A. Yes.

3 Q. Between May 23rd and May 25th, did Jump trade more
4 passively or more actively?

5 A. With bookstacker they were about three times as passive as
6 active. So for every three active -- for every three passive
7 trades, there was one active trade.

8 Q. So that's about 75 percent passive trades?

9 A. I think it was 73, but yes about 75.

10 Q. If we look more specifically at active trading, how much of
11 the active trading in the markets did bookstacker account for
12 during those two days -- three days?

13 MR. CARNEY: Objection. Vague as to markets.

14 Q. If we look more specifically at active trading, if we look
15 more specifically at trading on KuCoin from May 23rd to
16 May 25th, how much of the active trading did bookstacker
17 account for?

18 A. So for the price charts I was showing and all the trading
19 that was happening on there, bookstacker was 4 percent of the
20 active buying on that day. Or those days, excuse me.

21 Q. And how does that -- how did that impact your opinions?

22 A. Well, given that it's the active trades that impact price,
23 and bookstacker was such a small fraction of those, that just
24 reinforced the importance of thinking about who were the other
25 active buyers and what effect did they have on price.

O44ASec1

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1 Q. Does Dr. Mizrach's model include any buying by non-Jump
2 entities?

3 A. No. His model only includes Jump trading.

4 Q. Did Dr. Mizrach say why he didn't include non-Jump buying?

5 A. He said that the other buying was already incorporated into
6 the mid quote, so he didn't have to include it.

7 Q. And was that an assumption that he made?

8 A. That was an assumption he made.

9 Q. Did you test that assumption?

10 A. I did.

11 Q. What did you find?

12 A. It's not correct that other people's buying is not fully
13 incorporated into the mid quote. I just took his model and
14 added the other people's trading and found that it mattered.

15 Q. And please explain to the jury how it was that you did
16 that. I'd like them to understand how you accomplished the
17 test.

18 A. Oh, sure. So we write statistical models in a -- often in
19 a computer programming language or a package that's designed to
20 do it. So Dr. Mizrach, for all the analysis he did, he
21 produced all the computer code that produced his results. And
22 so then, I use that same computer code, made the small
23 adjustment to add in the other non-Jump trading, and then ran
24 the same code.

25 Q. And what did you determine?

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1 A. Well, I determined that the non-Jump trading was
2 significant. So it was not all incorporated in the mid quote
3 the way that Dr. Mizrach assumed.

4 Q. And how does that relate to Dr. Mizrach's opinion that
5 Jump's trading caused the repeg?

6 A. So it's, again, it comes back to he didn't consider other
7 possible explanations for what caused the repeg, including
8 other traders buying, and he should have.

9 Q. Given what we just discussed about the amount and
10 characteristics of Jump's trading, how does Dr. Mizrach
11 conclude that Jump caused the repeg?

12 A. So he concludes that Jump caused the repeg by calculate --
13 by using a statistical model to calculate the price impacts
14 that we've been talking about.

15 Q. And was his analysis based on assumptions?

16 A. It was based on a number of assumptions, yes.

17 Q. And how would you characterize those assumptions?

18 A. Well, I would characterize the assumptions as -- so he
19 looked at all of Jump's trading, and he assumed that
20 bookstacker's trading had the same price impact as Jump's
21 non-bookstacker trading. And as we talked about yesterday,
22 Jump also was also doing arbitrage and other things outside of
23 bookstacker, it was buying and selling the same amount. So he
24 assumed they had the same price impact.

25 And that's particularly important to not assume

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1 because bookstacker was more passive than the rest of their
2 trading. Like when you're doing arbitrage, you're often doing
3 it actively where you want to buy right now. Whereas
4 bookstacker was more often willing to wait and only buy if it's
5 a good price.

6 Q. So let's talk about one of those assumptions. Did one of
7 them relate to -- did one of them relate to how the trades
8 identified as bookstacker impacted price?

9 A. Yes. That's what I was just talking about.

10 Q. Okay. And was there an assumption about whether the
11 passive trades had similar impacts as the active trades?

12 A. He did not differentiate between the two, which is
13 important, as has been found in the literature.

14 Q. And when you say he didn't differentiate between the two,
15 what do you mean?

16 A. Well, so he -- when you're calculating price impact, he
17 only calculated an average price impact. He didn't calculate
18 it separately for the active versus passive, and he grouped all
19 of Jump's trading together.

20 Q. So did he essentially assume that the active trades had the
21 same impact as passive trades?

22 MR. CARNEY: Objection. Leading.

23 THE COURT: Sustained.

24 Q. What did he assume about -- what did Dr. Mizrach assume
25 about the price impact of active and passive trades by Jump?

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1 A. He assumed they're the same, just like he assumed that the
2 bookstacker and non-bookstacker trades have the same price
3 impact. And these two are closely related to each other.

4 Q. And what did he assume about -- what did Dr. Mizrach assume
5 about Jump's actual trading volume?

6 A. So when you're calculating a price impact, you estimate a
7 model that tells you how much a trade is associated with price
8 movement. So you have a price impact per trade and then if you
9 want to think about the impact of a whole series of trades, you
10 take that and multiply it times the number of trades they did.

11 Q. Let's take each of these assumptions in turn.

12 Why was the assumption -- why is the assumption that
13 the bookstacker trades have the same price impact as Jump's
14 other trades unsupported?

15 A. Well, so you, when you look at the Jump data, you can see
16 that bookstacker's trading was more passive than the rest of
17 its trading, and it's arbitrage trading. So you would expect,
18 before you even run a model that bookstacker would have a
19 smaller price impact than the rest of Jump's trading.

20 Q. And what does that mean for the results of a model that
21 doesn't make the -- that makes the assumptions that Dr. Mizrach
22 did?

23 A. So it means that if, right, so we expect the
24 non-bookstacker trades to have a bigger price impact than the
25 bookstacker trades, so if you assume they're the same, you're

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1 going to end up estimating that the price impact of the
2 bookstacker trades is really larger than it is because you've
3 made a bad assumption in your model.

4 Q. And did you test Dr. Mizrach's assumption that bookstacker
5 trades had the same price impact as Jump's other trades?

6 A. Yes, I did.

7 Q. How did you do that and what did you find?

8 A. Well, I did that in the same way I talked about earlier. I
9 took his computer code. I just took the one variable that
10 corresponds to Jump's trading, and I split it into two
11 variables. So there was the bookstacker trading and the
12 non-bookstacker trading. And then I did exactly the same thing
13 he did. So that allows you to separate the effect of the two
14 types of trading.

15 Q. And what did you find?

16 A. I found that the price impact of bookstacker was ten times
17 smaller than Dr. Mizrach had found.

18 Q. Could he have done the same analysis that you did?

19 A. Yes.

20 MR. HENKIN: Can we put up slide eight please but not
21 publish it to the jury yet.

22 Any objections?

23 MR. CARNEY: No objection.

24 MR. HENKIN: Your Honor, may I publish?

25 THE COURT: Yeah.

O44ASec1

Hendershott - Direct

1 A. And so --

2 Q. Wait. Wait.

3 A. Apologies.

4 Q. Professor, can you explain this chart and how it fits into
5 your opinion.

6 A. Yes. So this is just a two bar chart. It's got two bars
7 on it. One is about ten times as big as the other, and that's
8 what I was referring to. So the left bar, the green bar is
9 Dr. Mizrach's, the price impact he calculates for Jump's
10 trading, it's about \$1.30. And the right one is when I use his
11 model and separate out the bookstacker, which is the -- where
12 Jump was building its long position, and that bar is about
13 one-tenth as high. It's almost 14 cents.

14 Q. And that's what you were referring to as the ten times
15 difference?

16 A. Yes.

17 Q. Dr. Mizrach claims that he knows -- we can take this down.

18 Dr. Mizrach has claimed that he knows Jump's intention
19 was to restore the peg. How does intention relate to price
20 impact?

21 A. Well, it doesn't really. What matters for the price impact
22 of your trade is how you execute it. So if you do it more
23 aggressively or more actively, it's going to have a bigger
24 price impact. If you do it more passively, it's going to have
25 a smaller price impact.

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1 Q. And what was bookstacker, active or passive?

2 A. It was mostly passive, about three-quarters.

3 Q. What does that mean for Dr. Mizrach's -- strike that.

4 When Dr. Mizrach talked about focusing on intention,
5 what does that mean for his model?

6 MR. CARNEY: Objection. Vague.

7 THE COURT: Sustained.

8 Q. Did Dr. Mizrach's model assume a way the difference between
9 active and passive trading?

10 MR. CARNEY: Objection. Leading.

11 THE COURT: Well, just to move things along, it is
12 leading, but I'll allow it.

13 A. Yes. As I've talked about, it doesn't make differentiation
14 between the two, which is assuming that they have the same
15 price impact.

16 Q. So how does Dr. Mizrach's model -- strike that.

17 Does Dr. Mizrach's model include any measure of
18 trading volume?

19 A. So he estimated the model. And in the estimation you have
20 a variable that corresponds to trading, and that variable was
21 just a plus one or a minus one. It was a plus one for a buy or
22 a minus one for a sell. So it didn't matter how large the
23 trade was. They were all -- had the same price impact.

24 Q. Did it treat all trades the same regardless of size?

25 A. Yes.

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1 Q. Did Dr. Mizrach use the actual difference in the number of
2 buys and sells to estimate price impact in his model?

3 A. No, he did not.

4 MR. HENKIN: Can we put up slide nine, please. And
5 but not yet publish it to the jury.

6 Any objection?

7 MR. CARNEY: No objection.

8 MR. HENKIN: Your Honor, may I?

9 THE COURT: Yeah.

10 Q. Okay. Professor, can you explain how this chart relates to
11 the opinion that you were just describing?

12 A. So the right charts, the one, the bars in the little red
13 box, that's sort of the bottom line. So Dr. Mizrach ended up
14 estimating. He used -- to calculate his price impact, you need
15 what's the impact of every trade and how many trades were
16 there. And he ended up coming up with an estimate of a number
17 of trades that's ten times too large.

18 So he estimated that Jump's buying was really 10,000
19 trades, then he multiplied that by his price impact, and he got
20 his number. Whereas, the difference between the number of buys
21 Jump did and the number of sells they did, was really just a
22 little over 1,000. And so you might ask yourself, well, how
23 did this happen?

24 Well, and that's what the other two sets of bars are
25 doing. Basically he assumed that the average trade size for

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Hendershott - Direct

1 when Jump was buying and Jump was selling was the same. And
2 that wasn't true. So he ended up -- when you look at it, he
3 estimated the actual is in blue, and what Dr. Mizrach imputed
4 or estimated is in green, and the left bars are for their buys.
5 And you can see how the green bar is higher.

6 So using the same trade size, he estimated more buys
7 than there actually were, and middle bars were sells. And he
8 estimated fewer sells. So by having more buys and fewer sells
9 than there actually were in the data, the combination of those
10 made a big difference.

11 Q. And when you say made a big difference, you're talking
12 about overestimating the net number of transactions?

13 A. Yes. It was his estimate is ten times larger than it
14 actually is in the data.

15 Q. And what's the effect of that on Dr. Mizrach's model's
16 results?

17 A. So just this effect, if you take his price impact and you
18 multiply it by the actual number of trades, which is one-tenth
19 as big as the number of the difference in trades that he
20 estimated, you get a price impact that's ten times too high.

21 Q. When you were doing your analysis, did you use Jump's
22 actual trades to calculate price impact?

23 A. Yes, because that's what the model is estimated on.

24 Q. And what were your findings when you used Jump's actual
25 trade numbers?

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Hendershott - Direct

1 A. So the price impact is one-tenth as large as Dr. Mizrach
2 found.

3 MR. HENKIN: Okay. We can take this down.

4 Q. So circling back to we had a chart up of why you believe
5 Dr. Mizrach's analyses are flawed and incorrect, and we're on
6 number three now, which was that Dr. Mizrach's analysis yields
7 economically nonsensical results. Can you explain what you
8 mean by that?

9 A. So when I showed you the price impact that Dr. Mizrach
10 estimated, it's \$1.30. So but that doesn't make sense
11 because -- well, I guess I shouldn't use sense and cents but
12 they sound the same.

13 That it's not really economically plausible because
14 UST only trades between zero and one. So the idea that Jump
15 had a price impact of \$1.30, especially when you saw on the
16 price charts that prices never went below 90 cents, that's --
17 it doesn't make any sense.

18 MR. HENKIN: Let's put up slide ten, please but not
19 publish it to the jury yet.

20 Any objections?

21 MR. CARNEY: No objection.

22 MR. HENKIN: May I, your Honor?

23 THE COURT: Yeah.

24 Q. So, Professor Hendershott, we're a little bit limited by
25 graphics here. Can you explain this chart to the jury, please.

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Hendershott - Direct

1 A. So this is a chart of the price of UST similar to the ones
2 I put up on the big board. It's only for a half hour from
3 9:30 to 10:00. It's for that -- that's part of the period
4 where Jump -- where bookstacker bought a fair amount. In the
5 top line -- I have not used this before. We'll see if it
6 actually works.

7 Q. It's working.

8 A. So the top line, the one that you can barely see any
9 movement in, that's the same as the price graph I showed you.
10 You don't see any movement in this one because the scale is
11 between -- I'm having trouble with this, teaching aids.

12 The scale is between zero and one. Whereas. On the
13 other chart, the scale was just from 90 cents up to \$1.00.

14 And then you can see the line that declines steadily,
15 this is the price that Dr. Mizrach, that his model predicts
16 that would have happened if Jump had not bought. And so you
17 can see over this half hour, his model predicts that the price
18 was going to fall to about 10 cents, and then it would have
19 kept going down and eventually become negative later in the day
20 and ended up 30 cents below zero.

21 Q. And then focusing again on the top line, are those the
22 actual price numbers in that half-hour time period when
23 bookstacker was on?

24 A. Yes, those are the same ones I showed on the other chart.

25 Q. Going back to Dr. Mizrach's \$1.30 price impact, the one you

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Hendershott - Direct

1 were discussing a few questions ago, how could the price impact
2 be that large when Jump was only 10 percent of the buying?

3 A. Well, because of the mistakes that we talked about that
4 caused him to estimate a much larger price impact, an
5 implausibly large price impact.

6 Q. And did Dr. Mizrach ever explain how that could be?

7 A. Not really.

8 Q. What would you do if a model that you constructed gave this
9 type of result?

10 A. So if you have a model that tells you something that
11 economically doesn't make any sense, you would usually think
12 there's something wrong with it and scrap it and start over and
13 make one that produces results that are sensible.

14 Q. Okay. So moving on to your last critique or the last one
15 that we put up on the screen of Dr. Mizrach's analysis that he
16 failed to consider that Jump engaged in a significant amount of
17 mint-burn activity. How much mint-burn activity did Jump
18 engage in on May 23rd of 2021?

19 A. It was about 15 million worth.

20 Q. And how much -- what was the size of bookstacker's
21 purchases of UST on May 23rd, 2021?

22 A. It was close to the same size. It was a little over
23 15 million.

24 Q. How does Dr. Mizrach attribute the repeg to bookstacker and
25 not to mint-burn activity by Jump?

O44ASec1

Hendershott - Direct

1 A. He leaves the mint-burn activity out of his model.

2 Q. And what does he do instead of including it in his model?

3 A. He just only has the non-mint burn by Jump that they're
4 trading on the centralized exchanges.

5 Q. Is that a form of assumption about the effect of Jump's
6 mint-burn trading?

7 A. He assumed it was zero, because he left it out.

8 Q. Dr. Mizrach opined that the mint-burn mechanism was unable
9 to restore UST's peg to a dollar because the transaction fees
10 associated with the use of the mint-burn mechanism rose on May
11 23rd, to the point where the arbitrage mechanism became
12 unprofitable; do you agree with Dr. Mizrach?

13 A. No. That's too simplistic a statement.

14 Q. And why is it simplistic?

15 A. Well, we already talked about how much minting and burning
16 Jump did and there were other people who did a lot of minting
17 and burning on that day.

18 Q. Let's talk about that. Can you bring up PX 194, which is
19 already in evidence and publish it to the jury, please.

20 Professor, does PX 194 describe what you were just
21 talking about?

22 A. Yes. This is from Dr. Mizrach's report and he calculated
23 how much basically the minting and burning of UST for Luna
24 there was, and these are in millions. So you can see there
25 were tens of millions being done on many days around this time

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1 period.

2 Q. And does that mean that people were trying to capture
3 profits using the mint-burn mechanism?

4 A. That's what the mint-burn mechanism is designed to do.

5 Q. Is there evidence that Jump profited from using the
6 mint-burn mechanism during May 23rd, 2021?

7 A. Yes.

8 Q. And how do you get that result?

9 A. Well, you basically look at -- you have to make a few
10 assumptions, but you look at what did they -- what price at
11 which were they acquiring UST and what did they get when they
12 burned that. So that would incorporate the transaction fees
13 that Dr. Mizrach was talking about.

14 Q. I think we can take this down, please.

15 Going back to bookstacker, did you calculate whether
16 Jump's bookstacker trades were profitable?

17 A. Yes.

18 Q. And how did you do that?

19 A. I did that by looking at the price at which they bought
20 them, and then looking at the price of UST later. So
21 bookstacker was buying UST, so were they able to buy at a lower
22 price then they could eventually sell at.

23 Q. And what did you estimate in terms of the profit that Jump
24 might have made off of those bookstacker purchases?

25 A. They made about \$400,000.

O44ASec1

Hendershott - Direct

1 Q. Would that provide an incentive to many other buyers or to
2 any other buyers to step in and buy UST if Jump hadn't?

3 A. They made money on it, so other people could have
4 potentially made the same money if Jump didn't.

5 Q. And is it your opinion that Jump could have traded because
6 they were incentivized by potential profit regardless of any
7 agreement they might have had with TFL?

8 MR. CARNEY: Objection. Vague.

9 THE COURT: Sustained.

10 Q. Is it your opinion that Jump could have traded -- could
11 have done its bookstacker trades purely for a profit incentive?

12 A. That's certainly possible. They made money on it.

13 Q. Now, subsequent -- let's pull up DX 1262 that's already in
14 evidence, please. And we can publish it to the jury.

15 Now, subsequent to the deadline to the filing of your
16 response to Dr. Mizrach's report, did you become aware of
17 internal Jump communications described in the profitability of
18 transactions conducted during the May '21 depeg?

19 A. Yes, I did.

20 MR. CARNEY: Objection, your Honor. Could I request a
21 sidebar?

22 THE COURT: I don't see how this is admissible, but
23 I'll hear --

24 MR. HENKIN: It's already been admitted, your Honor.

25 THE COURT: I'm talking about the questions you're

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Hendershott - Direct

1 going to put to him, which sound on their face to be something
2 that's not in his report.

3 MR. HENKIN: We'll move on, your Honor.

4 Q. Changing gears to talk about the May 2022 depeg. What
5 happened in May 2022 regarding UST and Luna's price?

6 A. So in May 2022, the price of UST fell below a dollar. Or
7 it depegged.

8 Q. And why did that happen?

9 A. Well, it happened because there were large withdrawals from
10 the Anchor protocol and then those were -- there were a number
11 of very large trades by -- in that basically where the UST that
12 had been withdrawn was sold very quickly.

13 Q. And do you have a slide illustrating this?

14 A. I do.

15 MR. HENKIN: Can we pull up 11 please, but not publish
16 it to the jury.

17 Q. And, again, we're talking about 2022 here, right, not 2021?

18 A. Yes.

19 MR. HENKIN: Any objections?

20 MR. CARNEY: Other than relevance, no objection to the
21 demonstrative.

22 MR. HENKIN: This is from --

23 THE COURT: I'll allow it.

24 MR. HENKIN: I'm sorry?

25 THE COURT: I'll allow it.

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Hendershott - Direct

1 MR. HENKIN: Thank you, your Honor. May I publish?

2 THE COURT: Yeah.

3 MR. HENKIN: Thank you.

4 Q. Professor, can you explain this chart?

5 A. Yes. So there are dots which are, which are prices in UST.
6 They're not continuous because these are only dots that are
7 associated with trades. Then there's basically a number of
8 large red, so the size of the dot means the size of -- the
9 amount of UST that was involved in the swap or the trade. And
10 you can see there's a first big dot, which is Jane Street.
11 They sold 85 million UST all at once, and you can see that
12 caused price to decline. This is after the first dotted line.
13 Then there are several more dots, and prices are declining a
14 little bit. And then Celsius, which was another big very large
15 trader in crypto, they sold three times, 25 million each. And
16 you can see how this is associated with the price really
17 depegging and it declines steadily.

18 Q. And then --

19 A. And then the second dotted line is what I refer to as the
20 initial depeg because that's when it is falling below 99 cents.

21 Q. And so the first four big red dots that you were talking
22 about all preceded the dotted line that you call the initial
23 depegging?

24 A. Yes.

25 MR. HENKIN: All right. We can take this down.

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Hendershott - Direct

1 Q. Was there concentrated Anchor withdrawals, or were there
2 concentrated Anchor withdrawals like this in May 2021?

3 A. No. There was some Anchor withdrawals, but they were not
4 nearly as large nor were they concentrated in such large
5 wallets.

6 Q. What did TFL -- what did Terraform and the Luna Foundation
7 Guard do in response to the selling in May 2022?

8 A. Well, as they had publicly announced, they had funds that
9 they -- that they would use to try and support the peg. And so
10 they spent about \$3 billion trying to cause the price of UST to
11 repeg to a dollar.

12 Q. And what happened after they spent that \$3 billion?

13 A. They were unsuccessful and the price eventually continued
14 to decline.

15 Q. Did you do any analysis to determine why that was?

16 A. There was just significant -- yes.

17 MR. HENKIN: Let's put up slide 12, please, not
18 publish it to the jury yet.

19 Any objections?

20 MR. CARNEY: No objection.

21 MR. HENKIN: Your Honor, may I?

22 THE COURT: Yes.

23 Q. Professor, can you please explain this chart to the jury?

24 A. Yes. So this is basically trying to describe the quantity
25 of buy and sell orders. They were on exchanges. And so what's

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1 above the zero line, that's the quantity of sell orders, and
2 what's below the zero line, that's the quality of buy orders.
3 And the difference colors correspond to how close those were to
4 the current market price.

5 And as you can see, even before the initial depeg,
6 there was selling pressure in the market, meaning there were
7 more sell orders on the exchanges than there were buy orders.
8 That's why the red bars are bigger than the blue bars. Then
9 starting at the initial depeg, the imbalance, it continues,
10 even though Terraform and the Luna Foundation Guard are
11 spending \$3 billion to try and support the peg. So there was
12 just selling pressure that was too large to -- that overwhelmed
13 the money that was spent by Terraform and the Luna Foundation
14 Guard.

15 Q. And you talked about the colors being different. Can you
16 specifically explain the relevance of the red bars and the blue
17 bars?

18 A. The red bars and the blue bars are the ones that are most
19 relevant. Because these are buyers and sellers who are close
20 to the current market price. So they're the ones who are most
21 likely to trade. And the red is sell and the blue is buy. And
22 pretty much throughout the entire graph, there's more red than
23 blue.

24 Q. And when you say the red and the blue are the ones that are
25 more likely to trade, does that mean those are the trades that

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Hendershott - Direct

1 are more likely to execute?

2 MR. CARNEY: Objection. Leading.

3 THE COURT: Sustained.

4 Q. What does that mean about the likelihood of the trades to
5 execute?

6 A. Well, it's an order. So these are orders that have not yet
7 executed, and if they're close to the best prices in the
8 market, they're more likely to trade.

9 Q. How does your opinion about 20 -- about what happened in
10 2022 effect your opinions of Dr. Mizrach's analysis?

11 A. So in 2022, Terraform and the Luna Foundation Guard spent
12 \$3 billion to try to support the peg. So in 2021, the
13 bookstacker buying was only 15 million. So either 2022 doesn't
14 tell you anything about 2021, or it's evidence against that
15 \$15 million buying in bookstacker was responsible for 2021 for
16 the repeg.

17 Q. Did you construct your own model to try to explain -- now
18 I'm going to go back to 2021.

19 Did you construct your own model to try to explain the
20 cause of the repeg of UST in 2021?

21 A. No, I did not.

22 Q. Why not?

23 A. Well, so we saw the price charts earlier. And the price
24 just never declined that much. And I provided very detailed
25 graphs in my report that look at everything, every 15 minutes,

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Hendershott - Cross

1 and snapshots at every 15 seconds. And I just looked at Jump's
2 buying and it was not -- and bookstacker, it was just not
3 associated with significant price increases.

4 So there's no need to create a model. They did not
5 have a large price impact. And then I looked carefully at
6 Dr. Mizrach's model and I saw the mistakes he made and
7 understood why he got such a large price impact. So there
8 wasn't any need to do my own model.

9 Q. Now, you talked about two of the mistakes that Dr. Mizrach
10 made separately. And for each of them, you said they were --
11 they caused about a ten-fold error; is that right?

12 A. Yes.

13 Q. And so was that sufficient for you to reject Dr. Mizrach's
14 model?

15 A. Yes. Well, at least the numbers he calculated from it.
16 When I made the corrections, I got much lower numbers.

17 MR. HENKIN: Okay. Thank you, Professor Hendershott.
18 I pass the witness for now, your Honor.

19 THE COURT: Cross-examination.

20 MR. CARNEY: Thank you, your Honor.

21 CROSS-EXAMINATION

22 BY MR. CARNEY:

23 Q. Good morning, Professor Hendershott.

24 A. Good morning.

25 Q. Nice to see you again. Just a reminder, we've met a couple

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Hendershott - Cross

1 times, but my name is Chris Carney and I'm an attorney with the
2 Securities and Exchange Commission.

3 I would like to start by asking you about what was
4 marked as Defendants' Exhibit 1805, and that was the
5 demonstrative you had up on the easel but I think we can do it
6 with you just looking at it on the screen.

7 First of all, Dr. Hendershott, did you prepare this
8 chart?

9 A. Oh, I had Cornerstone Research prepare it for me.

10 Q. And did you check their work?

11 A. I checked that their work was consistent with many other
12 things, yes.

13 Q. You said with many other things?

14 A. Yeah. So I looked at some of the underlying data to make
15 sure that the prices in this correspond to what was in the
16 underlying data.

17 Q. And you tried to confirm the accuracy of the chart?

18 A. Yes.

19 Q. Okay. And at the top of the chart it says that the time
20 period of the chart is May 23, 2021, 5:00 a.m., to May 25,
21 2021, 9:00 p.m. Central Daylight Time, right?

22 A. Yes.

23 Q. Okay. But and I'm not an economist, but when I look at the
24 chart, it looks like it stops at 8:00 a.m. on May 25, 2021; is
25 that right?

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Hendershott - Cross

1 A. Well, if you look at -- so you see there on bottom axis
2 there are ticks. So it's something that's marked on the axis.
3 And below there, there's a number. And so if you see on the
4 left side, there's 5:00 a.m. and that's right -- there's a tick
5 right at -- I guess I can try and do this so if we're going
6 to -- right. So let's see if I can get my pointer to work. I
7 guess not.

8 But so that starts at 5:00 a.m. Now, if you look at
9 the last part, you can see the gray bar goes past 8:00 a.m.
10 And that's why it goes until 9:00 a.m. So if it had just gone
11 to 8:00 a.m., the end of the gray would have been exactly on
12 top of where the tick mark is that's just above 8:00 a.m.

13 Q. But you would agree that the chart doesn't go to 9:00 p.m.,
14 right?

15 A. Oh. Sorry. I think you're referring that the p.m. is a
16 typo there.

17 Q. Okay. So that's just a typo. There's not 12 hours of
18 missing data on the chart?

19 A. There's not 12 hours of missing data.

20 Q. Okay. So looking at the chart, as I understood it, at
21 9:30 a.m. Central Time as marked by the green X, the price of
22 UST was at 95 cents, right?

23 A. Yes. If we want to talk about that right around that time
24 period, the other chart shows it more clearly, but yes, that's
25 right here.

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Hendershott - Cross

1 Q. And that -- I'm sorry. I didn't mean to interrupt.

2 And that 9:30, the green X there represents when Jump
3 turned on bookstacker; is that right?

4 A. That was the first time it started buying, yes.

5 Q. And per your demonstrative, as marked by that next red X by
6 10:00 a.m. central time, the price of UST was approximately
7 97.5 cents, right?

8 A. The price is about two and a half cents. This chart
9 doesn't show it as clearly, but that calculation is about
10 right.

11 Q. Okay. And then when Jump starts trading again at 5:00 p.m.
12 Central Time, as designated by that second green X, the price
13 of UST was around 94 cents; is that right?

14 A. Right. The price had declined to about 92 cents at
15 2:00 p.m., and then it recovered. And then after it recovered
16 and had been the same for a while, Jump started purchasing
17 again with bookstacker.

18 Q. And then if we go to the next red X there, when Jump
19 stopped bookstacker trading again around 3:00 a.m. on May 24th,
20 the price of UST was a little above 95 cents, right?

21 A. Yeah. It's a little more than a penny higher than before
22 the previous green dot.

23 Q. All right. And then if we move to the next green X when
24 Jump started bookstacker trading again around 10:00 a.m. on
25 May 24th, the price of UST was around 98 cents, right?

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Hendershott - Cross

1 A. Yes, between the red X when they stopped buying and the
2 green X when they started buying again, the price rose by about
3 3 cents.

4 Q. And then finally when Jump stopped the bookstacker trading
5 again around 6:00 p.m. on May 24th, the price of UST was around
6 98.5 cents, right?

7 A. It's hard for me to estimate, but it was above 98.

8 Q. Okay. So is it correct to say that based on your
9 demonstrative, every time Jump turned on the bookstacker and
10 traded, the price was higher when they stopped trading than
11 when they started trading, right?

12 A. The red dots are generally higher than the green dots, yes.

13 Q. In fact they're always higher than the green dot that
14 proceeds it, right?

15 A. There are three pairs and they are higher each time.

16 Q. So, in other words, every time Jump traded per your
17 demonstrative, the price of UST increased, right?

18 A. The price increased at other times too, but while
19 bookstacker was on, as you just said, the red dots are higher
20 than the green dots.

21 Q. All right. Professor, during your direct yesterday you
22 mentioned that there are some things that you and Professor
23 Mizrach agree upon, right?

24 A. I believe I made reference to one particular thing and I
25 think it was related to bookstacker's -- was the way that they

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Hendershott - Cross

1 built their long -- Jump built it's long position.

2 Q. And in fact, Professor, you said that one of the things you
3 agree on is his opinion that bookstacker was the primary method
4 by which Jump intervened to restore the peg, right?

5 A. I agree that bookstacker was the way they built their long
6 position. If I put it exactly that way, I didn't intend to.

7 MR. CARNEY: Can we display just for the Court and the
8 witness, yesterday page 1532, lines 20 to 25. And it might
9 actually carry over to the next page just to make sure. Yeah.
10 So 1533, one.

11 Your Honor, permission to publish that to the jury and
12 read it in.

13 THE COURT: Yes.

14 MR. CARNEY: Thank you.

15 Q. Were you asked the question yesterday and did you give the
16 answer:

17 "Q. Did Dr. Mizrach's opinion characterize bookstacker as the
18 primary method by which Jump intervened to restore the peg.

19 "A. Yes. He and I agree on that.

20 "Q. And when you say you agree on that, does that mean you
21 agree with his opinion?

22 "A. I agree that it was the way they acquired the long
23 position as we've been talking about.

24 Q. Now, Professor, I think you mentioned yesterday that your
25 compensation that you received, is it 1,525 an hour?

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Hendershott - Cross

1 A. That's what it is this year. It was lower last year.

2 Q. Okay. But you also, you've mentioned that you've had some
3 Cornerstone colleagues perform work for you on this case,
4 right?

5 A. Yes.

6 Q. And you also receive a percentage of the compensation that
7 Cornerstone employees for the work they perform on the case as
8 well, right?

9 A. Yes, I do.

10 Q. Okay. And so to know the full amount that you receive for
11 working on the case, you would have to know the fees that you
12 get for Cornerstone employees working on the case as well,
13 right?

14 A. Yes.

15 Q. All right. Professor, you believe that prices typically
16 increase when there are more buyers, right?

17 A. So in general, the literature has found -- well, so when
18 trading occurs, there's always a buyer and a seller. But after
19 these active buy trades, on average in the literature finds
20 that prices go up.

21 Q. And so conversely prices decrease when there are more
22 sellers, right?

23 A. I would put in the context of when they're -- as I said,
24 when there's a trade, there's always a buyer and a seller. So
25 what matters is who initiated the trade or who was actively

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Hendershott - Cross

1 trading. So when there's an active sell, on average prices go
2 down.

3 MR. CARNEY: Mr. Haywood, can we please put up the
4 demonstrative that we were just looking at a second ago.
5 D-1308 I think -- or I'm sorry. 1805.

6 Q. And to understand what is causing prices to rise or fall,
7 it would be helpful to understand how much buying and selling
8 pressure there is, right?

9 A. That could help inform your decision or your view on what
10 might be happening in the market.

11 Q. And as someone who specializes in market microstructure,
12 you wouldn't draw conclusions about price impact without
13 understanding market dynamics, such as buying volume and
14 selling volume, right?

15 A. Well, in the -- Dr. Mizrach's model just looks at trades,
16 and in every trade there's a buyer and a seller, so you take
17 that into account.

18 Q. So every trade has a buyer and a seller you said, right?

19 A. Correct.

20 Q. So when you said at one point that Dr. Mizrach's model
21 doesn't account for other traders, it does because every trade
22 has a buyer and a seller, right?

23 A. He didn't include every trade in his model is what I meant.

24 Q. Okay. The trades he did include all had buyers and
25 sellers, right?

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Hendershott - Cross

1 A. He only included the trades that Jump were involved in and
2 they included both the Jump buyer and -- or seller, and who was
3 on the other side.

4 Q. So it's fair to say he didn't just include Jump in his
5 analysis, right?

6 A. He only included trades that Jump was involved in.

7 Q. Which all involved another party, right?

8 A. That's true.

9 Q. And the graph that we're looking at here, Defendants'
10 Exhibit 1805, this doesn't show how much buying or selling
11 pressure there was in this market, right?

12 A. It doesn't show it in the way that the slides I showed
13 about 2022 show it, but I mean it shows all the transaction
14 prices.

15 Q. So the -- let me get this straight. The slides that you
16 showed about the May 2022 depeg did account for buying and
17 selling pressure?

18 A. They displayed it, yes.

19 Q. Okay. But the slides that you showed for the May 2021
20 depeg do not?

21 A. Correct.

22 Q. Do you know what percentage of the buying volume of UST
23 Jump represented during the 9:30 a.m. to 10:30 a.m. period on
24 May 23rd, 2021?

25 A. Not off the top of my head, but I think it was pretty high.

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Hendershott - Cross

1 Q. Okay. And I think, as we saw, the price rose 3 cents from
2 9:30 a.m. to 10:00 a.m. on May 23, 2021, right?

3 A. The other chart shows the price -- much easier to see the
4 prices in the other chart, but yes, it went up and then down
5 during that time period.

6 Q. Let me ask you this, Professor, and you can just take this
7 as a hypothetical if you want, but if Jump was doing virtually
8 all of the buying during that time period, could a reasonable
9 economist conclude that Jump's trading had no price impact?

10 A. One would want to look at it carefully, but Jump was buying
11 and they were more actively buying during that period, so they
12 may have had some price impact then.

13 Q. And this graph doesn't show how much selling pressure Jump
14 absorbed, right?

15 A. I'm not sure what you mean by selling pressure, but there
16 were sellers that Jump bought from.

17 Q. And, Professor, you would agree that price impact is often
18 measured by changes in mid quote prices, right?

19 A. That's a common way to do it.

20 Q. And this graph we're looking at here doesn't show what the
21 limit order book was like, right?

22 A. No, it doesn't.

23 Q. And it doesn't show how much quantity was at the best bid
24 or the best offer, right?

25 A. No, it doesn't. I mean, it shows transaction prices, which

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Hendershott - Cross

1 would have been from the orders in the limit order book, but it
2 doesn't show all of them.

3 Q. All right. And just to confirm, this graph also doesn't
4 show any statistical relationship between any trades and
5 subsequent price changes, right?

6 A. It shows all the trades and the price changes. It doesn't
7 calculate any statistics.

8 MR. CARNEY: All right. We can take that down. Thank
9 you.

10 Q. Professor, you described during your direct yesterday that
11 your primary assignment was to review and evaluate
12 Dr. Mizrach's opinions; is that right?

13 A. I believe that's what I said.

14 Q. And you issued your expert report in this case in
15 September 2023, right?

16 A. That sounds right.

17 Q. And in that report you opined that you felt Dr. Mizrach's
18 opinions were not reliable in your view, right?

19 A. Yes.

20 Q. And in particular, you took issue with how Dr. Mizrach
21 employed what's known as the Hasbrouck VAR or vector
22 autoregression model, right?

23 A. I took issue with how he implemented it, yes, and I talked
24 earlier about what my concerns were.

25 Q. And, Professor, in March 2024, you released a revised

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Hendershott - Cross

1 version of a paper called: Public and Private Information in
2 Quotes and Trades, didn't you?

3 A. Yes. I am still connecting research.

4 Q. Okay. And so professors like yourself issue revised
5 versions of paper for a variety of reasons, right?

6 A. Usually, you know, you write an initial draft, you present
7 it and get feedback, and then you revise it.

8 Q. All right. And one of the reasons a professor might issue
9 a revised paper is if they determine that information contained
10 in the paper is unreliable, right?

11 A. It depends upon what you mean by unreliable, but you might
12 change the language in which you describe something, you might
13 add additional analyses. There are a variety of reasons why
14 you would update a paper.

15 Q. So just, for example, if you had an earlier version of a
16 paper and you determined that a data source in it was not
17 reliable, you might revise the paper to no longer use that
18 source, right?

19 A. I don't know that I've ever done that, but I could imagine
20 some scholars have.

21 Q. I want to show you what's been marked as Plaintiff's
22 Exhibit 664. And this is just for the witness at this time.

23 Is this a copy of your March 2024 paper that we were
24 just discussing?

25 MR. HENKIN: Do you have a hard copy for him to look

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Hendershott - Cross

1 at?

2 MR. CARNEY: Sure. Your Honor, may I approach?

3 Q. And my question, Professor, was: Is this a copy of your
4 March 2024 paper that we were just discussing?

5 A. It looks like it.

6 MR. CARNEY: And, your Honor, at this time, I would
7 ask the Court's permission to publish this article and read
8 certain lines into the record under the learned treatise
9 exception in Federal Rule of Evidence 803(18).

10 MR. HENKIN: Your Honor, I would object. I think
11 before that happens we have to establish the provenance of the
12 paper, whether it's been published, whether it's still under
13 revision, various other things. I think he needs to ask more
14 questions.

15 MR. CARNEY: Your Honor, it's his paper.

16 THE COURT: Let me see it, please.

17 So you're the coauthor of this paper, yes?

18 THE WITNESS: I believe so.

19 THE COURT: I mean, well, it says that it's authored
20 by James Brugler and Terry Hendershott. Terry Hendershott is
21 you?

22 THE WITNESS: Yes.

23 THE COURT: And this has been published on the web?

24 THE WITNESS: I think so. I'm not quite sure where
25 Mr. Carney got it from. If it has SSRN --

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Hendershott - Cross

1 THE COURT: Well, you see the notation here,
2 electronic copy available and then there's a --

3 THE WITNESS: URL.

4 THE COURT: Yeah.

5 THE WITNESS: Yeah, so it's available on the Social
6 Science Research Network.

7 THE COURT: Okay. The objection is overruled.
8 Received.

9 (Plaintiff's Exhibit 664 received in evidence)

10 MR. CARNEY: Thank you, your Honor.

11 THE COURT: Here. Let me give it back.

12 BY MR. CARNEY:

13 Q. And just briefly, Professor, I just want to draw your
14 attention to page two of the article. I promise we're not
15 going to go through the whole article. I wouldn't do that to
16 anyone.

17 If we look at page two and if we look at the
18 highlighted sentence we see, "we estimate the relative
19 contribution of quotes and trades from races and non-races by
20 extending the Hasbrouck (1991a) structural vector
21 autoregression (SVAR) model of return and trades to include
22 distinct variables for each event category."

23 Did I read that correctly, or almost correctly?

24 A. I think so.

25 Q. All right. And, Professor Mizrach used the vector

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Hendershott - Cross

1 autoregression model to perform his analysis in this case,
2 right?

3 A. He did.

4 Q. And you have a footnote at the bottom, footnote one to that
5 sentence, right?

6 And in that footnote you cite to a paper by Professor
7 Mizrach, right?

8 A. I do.

9 Q. And you've cited this in other papers by Professor Mizrach
10 in multiple publications of yours, right?

11 A. I think in one other paper, yes. Perhaps another one but I
12 think -- no, there are two or three I think, yeah.

13 Q. And just to be clear, this exhibit that we're looking at
14 here, Plaintiff's 664, came out months after your expert
15 opinions in this case, right?

16 A. Yes, it did. And it's referring to not the model that
17 Dr. Mizrach estimated in his report, but to a model that
18 doesn't make the mistakes of the one that's in his report.

19 MR. CARNEY: Okay. We can take that down, thank you.

20 Q. And, Professor Hendershott, with your expert report, you
21 attached what was known -- what's known as a CV or a résumé,
22 right?

23 A. Yes.

24 Q. Okay. And it goes -- your CV goes through your extensive
25 academic experience; is that fair to say?

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Hendershott - Cross

1 A. It's designed to list papers I've published and other
2 things, academic things I've done.

3 Q. Okay. And the qualification section of your résumé or CV,
4 it doesn't mention you having any specialized knowledge,
5 experience, training, or education in blockchain technology,
6 right?

7 A. I don't think there is a qualification section on my CV. I
8 mean, I talk about my education. I talk about my publications.
9 I talked yesterday about a paper that I've written that talks
10 about blockchain and crypto currency, so that's listed there.

11 Q. Is that your survey paper?

12 A. Yes.

13 Q. Okay. So and that survey paper you didn't do -- you didn't
14 download blockchain data yourself to do the survey paper,
15 right?

16 A. No. I was talking about papers that would have done that,
17 but I didn't do it myself in that paper.

18 Q. You were talking about papers that were written by other
19 people, right?

20 A. Oh, yes.

21 Q. And that's what a survey paper means, right?

22 A. You characterize what the literature is like. You're doing
23 a survey of the literature, and then you often talk about what
24 future directions research would be valuable.

25 Q. And besides this case, you've not testified in other

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Hendershott - Cross

1 matters involving blockchain technology, right?

2 A. No.

3 Q. And putting aside your survey paper, you've not published
4 any original research based on analysis of blockchain
5 transactions, right?

6 A. No, I haven't.

7 Q. And as part of your work in this case you reviewed
8 Dr. Mizrach's report and deposition, right?

9 A. Yes, I did.

10 Q. So you know that Professor Mizrach personally downloads
11 data in his office from various blockchains and centralized
12 exchanges, right?

13 MR. HENKIN: Objection. Relevance.

14 THE COURT: Well, I can't tell you -- answer that
15 question and then we'll see what the follow-up question is and
16 then we'll see whether it's relevant or not.

17 A. I don't remember his report mentioning where he downloaded
18 the data from or anything like that.

19 Q. Okay. Well, let's talk about you then. You didn't
20 personally download or obtain the blockchain data you relied
21 upon in your report, right?

22 A. No. Cornerstone Research did it for me the way I use
23 research assistance in my own research.

24 Q. Professor Hendershott, you've served as an expert witness
25 in cases involving the trading of securities in the past,

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Hendershott - Cross

1 right?

2 A. Yes.

3 Q. And in one case you served as an expert on behalf of NYSE
4 Arca in proceedings before the Securities and Exchange
5 Commission, didn't you?

6 A. Yes, I did.

7 Q. And you can correct me if I'm wrong, but that proceeding
8 involved whether certain fees charged by your client, who
9 operated a security exchange, were proper, right?

10 MR. HENKIN: Objection to -- mischaracterizes that
11 case.

12 THE COURT: Well, it's just a question. If it
13 mischaracterizes it, then the witness will be able to say so.

14 A. Proper is -- I'm not sure I would use the word proper. But
15 there was dispute about whether or not the exchanges should be
16 allowed to set their own -- whether or not their prices for
17 market data and for a particular kind of market data, very
18 detailed and voluminous market data, whether or not I think
19 the -- this was about ten years ago. But I think it was fair
20 and reasonable is sort of the standard.

21 Q. Okay. And Mr. Henkin was the lawyer you worked with on
22 that case, right?

23 A. Yes.

24 Q. And how many cases have you worked on with Mr. Henkin?

25 A. This is my third one.

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Hendershott - Cross

1 Q. And in that case you offered opinions about competition for
2 certain market data offered by your client, right?

3 A. It was related to competition for market data and trading.

4 Q. And correct me if I'm wrong, but the case started out, it
5 went before what's called an administrative law Judge, right?

6 A. Yes, it was a proceeding that was held at the SEC in front
7 of -- I think she was at the time the chief administrative law
8 judge.

9 Q. And then the case was -- I don't know what the correct term
10 is, but it was appealed up to the commission; is that right?

11 A. I didn't have any involvement in the case after my
12 testimony at the administrative proceeding.

13 Q. But you're aware that the commission issued a decision in
14 that case, right?

15 MR. HENKIN: Objection. Relevance.

16 THE COURT: I think we'll need a sidebar on this one.

17 (Continued on next page)

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Hendershott - Cross

1 (At sidebar)

2 MR. CARNEY: Your Honor, the commission issued a
3 decision in that case where they found that his analysis
4 contained flaws that the persuasiveness. They issued a long
5 written decision that he failed to connect apples to apples
6 comparison of trading on traditional exchanges, which
7 significantly undermined the persuasive value of his analysis
8 and that he failed to include significant trading --

9 THE COURT: So I don't see how that's admissible. To
10 begin with, it's hearsay.

11 MR. HENKIN: It was also reversed.

12 THE COURT: That may be relevant if I allow it in, but
13 I assume you're objecting to allowing it in.

14 MR. HENKIN: Yes. And it was also a joint report and
15 those weren't his conclusions.

16 THE COURT: All right. In any event --

17 MR. CARNEY: I'll move on.

18 THE COURT: Yeah. I don't think it gets past the
19 hearsay objection.

20 (Continued on next page)

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22
23
24
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Hendershott - Cross

1 (In open court; jury present)

2 BY MR. CARNEY:

3 Q. Moving on, Professor, you would agree that Dr. Mizrach
4 created a model in this case, right?

5 A. He estimated a model, yes.

6 THE COURT: I'm sorry, counsel. I should have asked
7 you this at the sidebar. We're getting close to our normal, is
8 this a good point?

9 MR. CARNEY: This is a perfect point. Thank you, your
10 Honor.

11 THE COURT: So we'll take a 15-minute break at this
12 time.

13 You may step down. We'll see you in 15 minutes.

14 THE WITNESS: Thank you.

15 (Continued on next page)

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Hendershott - Cross

1 (In open court; jury not present)

2 THE COURT: I will have my law clerk pass out to
3 counsel my draft proposed jury instructions for your review
4 prior to the charging conference, and I'll also have him pass
5 out the proposed verdict form. So we'll discuss all of that
6 later.

7 How much more on cross do you have?

8 MR. CARNEY: I'm on page 8 of 19 if that -- so
9 40 percent finished.

10 THE COURT: What I'm hoping, but I'm not requiring, is
11 if we can finish the defense case by the time of our lunch
12 break, then that would give both sides ample opportunity over
13 the lunch to review the proposed charge, and then we could have
14 our charging conference. We could excuse the jury and have our
15 charging conference between 1:30 and 3:30 or if I excuse them
16 at 1:00 between 2:00 and 3:30, which I think would be more than
17 enough for the charging conference. Otherwise, lucky you,
18 we'll have to continue it at 7:00 tonight. But I'm just
19 throwing that out as a hopeful scenario.

20 And with respect to the exhibits that were handed up
21 earlier, Exhibits D-1965, 1966, and 1967, are not business
22 records in the sense of the hearsay exception for quite a
23 variety of reasons. First, they're not the recording of
24 regularly conducted activity in the sense used by the rule.
25 Most of them are opinions. Secondly, they contain all sorts of

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Hendershott - Cross

1 stuff that has nothing to directly do with the business of
2 Jump. The author of, for example, 1965,
3 Kanavkariya@jumptrading.com spends a lot of time -- and this I
4 gather was part of the reason for the offer, describing Chai's
5 business. That's not part of the regularly conducted business
6 of Jump. I could go on and on. But anyway, those three
7 exhibits will not be received.

8 Now, with respect to 1277, which is the cover page
9 from Do Kwon to at Mr. Kariya -- I'm sorry. It's from John
10 Nagel to Do Kwon with a cc to Mr. Kariya, that one says: Do,
11 at Kanav's request I am e-mailing the attached revised
12 agreement and sending the same via DocuSign. If you need
13 anything from us, just let us know. And then that's dated
14 July 21st, 2021. And then there's a second amended and
15 restated loan confirmation.

16 Putting aside any questions of -- before we get to
17 other possible objections, what's the relevance since this was
18 in July and the whole point of what is being presented relates
19 to the trading in May?

20 MR. CALIFANO: Your Honor, it is defendants'
21 contention that there was no agreement in May and that is the
22 first indication of any new agreement after the April loan.
23 One of the reasons that we've asked that this be admitted is
24 because when the SEC summary witness had testified to the
25 documents that were on their timeline, they were missing this

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Hendershott - Cross

1 document, which was the earliest communication of the new loan
2 agreement in July. And we believe that's relevant, your Honor,
3 because it shows there was no agreement between April and July.

4 THE COURT: Well, how does it show that?

5 MR. CALIFANO: Because it's the first agreement that
6 is communicated between the two parties since April of 2021.

7 THE COURT: Yeah. But my understanding is that the
8 SEC is not saying that there was necessarily a formal written
9 agreement, but rather that there was a secret verbal agreement.

10 MR. CALIFANO: I understand that, your Honor, but it
11 is our contention that they have not provided sufficient proof
12 of that, and that the only proof of agreements are the written
13 agreements, which we would intend to argue obviously with this
14 into evidence.

15 THE COURT: All right. Let me hear any objections to
16 either the 1277, the cover page, or D-1278.

17 MS. MEEHAN: Your Honor, just a couple things. I
18 don't have the exhibit numbers in front of me, but what they're
19 trying to offer into evidence is a draft of the agreement
20 that's already in evidence, which is the July 2021 agreement.
21 And, in fact, it's completely irrelevant because what the Jump
22 timeline shows is that the communications, the e-mails between
23 Jump and Terraform relating to the confirmation of the
24 deliveries and the requests for the deliveries ends in April.
25 And our witness testified that he didn't put the drafts of the

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Hendershott - Cross

1 agreement, of the July agreement, on the timeline.

2 THE COURT: Yeah.

3 MS. MEEHAN: So it's just completely irrelevant.

4 THE COURT: So on D-1278, I had the first page -- oh,
5 I see the second page is over here. So it's unsigned as you're
6 saying, so it's just a draft.

7 MS. MEEHAN: Yep.

8 MR. CALIFANO: Your Honor, according to the SEC's
9 position, they said that the agreement was reached on May 23rd.
10 We believe that this was evidence that there was no agreement
11 on May 23rd and the earliest agreement after April was reached
12 on or about that date, July 21. And that's the first
13 communication, the earliest communication we have of any
14 agreement.

15 THE COURT: They're not making any claim that there
16 was a written agreement relating to what occurred in May. They
17 say it's an oral agreement. So I don't see how this proves or
18 disproves. I don't see how it bears on it. Plus, it's only a
19 draft.

20 MR. CALIFANO: I think, your Honor, our position is
21 that this proves that there was no change in those vesting
22 conditions until July, and that's the earliest proposed change
23 that exists between the two parties. That's our position.

24 THE COURT: And how do you prove that other than by
25 just -- you're drawing that inference from the fact that this

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Hendershott - Cross

1 draft says second amendment?

2 MR. CALIFANO: And that it was communicated --

3 THE COURT: Where is the first amendment?

4 MR. CALIFANO: The first amendment was the April --

5 THE COURT: I thought you said the original agreement
6 was April?

7 MR. CALIFANO: The original agreement was a master
8 agreement that occurred in September of 2020.

9 THE COURT: I see. All right. I'll think about this.
10 Anything else we need to take up right now?

11 MR. CONNOR: Your Honor, we had one other issue which
12 was the issue we talked about before Professor Hendershott took
13 the stand.

14 They apparently intend to offer a custodian of records
15 to give substantive fact testimony to rebut a witness that we
16 put up. That's simply not proper custodian of record
17 testimony. So we would object to them calling that witness for
18 anything other than --

19 THE COURT: Yeah, I'm very dubious about that, but
20 I'll wait to hear the exact question. Anything else?

21 MR. KORNBLAU: Your Honor, to facilitate the parties'
22 review of the Court's draft instructions and verdict form,
23 would it be possible for your trusty law clerk to send
24 electronic copies?

25 THE COURT: So I'm surprised to hear that from anyone

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Hendershott - Cross

1 with gray hair, but sure. We will do that.

2 MR. KORNBLAU: Ouch, your Honor.

3 THE COURT: All right. We'll see you all in five
4 minutes.

5 (Recess)

6 (Continued on next page)

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Hendershott - Cross

1 THE COURT: Please be seated.

2 My chambers received a communication from a member of
3 the press who said he had asked the SEC for copies of their
4 exhibits, and the SEC had indicated, quite rightly, that they
5 would need to check with the Court.

6 I have no problem with either side providing exhibits
7 to the press, exhibits that have been entered into evidence,
8 not ones that have not been entered into evidence, but without
9 any colloquy. Just if a reporter wants Exhibit No. 75, it's
10 been entered into evidence, you can give them Exhibit 75.

11 All right.

12 MR. CALIFANO: Your Honor.

13 THE COURT: Yes.

14 MR. CALIFANO: My apologies, but I had a discussion
15 with the SEC about that very issue. I understand that what we
16 are going to do at the break is just make sure, pursuant to
17 FOIA and other requirements of the SEC, that we are not —
18 they're not inadvertently releasing personally identifiable
19 information which they're not supposed to do.

20 THE COURT: That's fine.

21 MR. CALIFANO: Thank you. All right.

22 MS. MEEHAN: Your Honor, I just want to clarify one
23 issue relating to —

24 THE COURT: By the way, I don't see how FOIA could
25 possibly prohibit giving to anyone in the world an exhibit that

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Hendershott - Cross

1 has in full been presented and received in evidence. If it
2 included, when it was offered and received, identifying
3 information and no one objected, it's received. But,
4 nevertheless, I'll leave it to you. If you want to have some
5 mutual discussion about that, I'll leave that to you. But I
6 don't — this is a public court, and everything that occurs in
7 this court is open to the press.

8 Yes.

9 MS. MEEHAN: I just wanted to clarify the SEC's
10 objection relating to the custodian of records, that testimony.
11 It relates to Defendants' Exhibit 1275. We understand, from
12 having spoken with counsel, that they are attempting to offer
13 this document as — they call it rebuttal, but what it really
14 is is impeachment of Mr. Hunsaker's testimony related —

15 THE COURT: You're talking about the draft second
16 amend?

17 MS. MEEHAN: No.

18 THE COURT: What are you talking about?

19 MS. MEEHAN: This is a separate issue. This is an
20 exhibit that reflects an entry in the deal tracker system,
21 Jump's deal tracker system.

22 THE COURT: I don't think I've been furnished with
23 this exhibit.

24 MS. MEEHAN: This relates to what they're trying to
25 call this Jump custodian of records to testify —

O44HSec2

Hendershott - Cross

1 THE COURT: Get to him now. Excuse me, forgive me.
2 We'll get to him when we get to him, but we're going to finish
3 this witness. And if you may have gathered, I am impatient to
4 move this to conclusion today. Maybe you enjoy coming back at
5 7 o'clock, but I don't.

6 Let's bring in the witness. Let's bring in the jury.

7 (Continued on next page)

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Hendershott - Cross

1 (Jury present)

2 THE COURT: Please be seated.

3 All right, counsel.

4 MR. CARNEY: Thank you, your Honor.

5 Mr. Haywood, if you would please pull up Defendants'
6 Exhibit 1807, page 10 of 12. This is one of the demonstratives
7 that Dr. Hendershott looked at earlier.

8 Q. Professor, I just want to ask you a question about this.

9 As I understand it, in your chart here, the line
10 across the top is the — was the actual price of UST during the
11 9:30 a.m. to 10 a.m. Central Daylight period on May 23, 2021,
12 is that correct?

13 A. Yes.

14 Q. And this sort of dotted line that goes — descends down,
15 that is Dr. Mizrach's pricing?

16 A. That's the difference between the top line and the —
17 Dr. Mizrach's price impact estimate. So I call it his but-for
18 price.

19 Q. OK. Do you understand that it's Dr. Mizrach's opinion that
20 Jump accounted for virtually all of the buying of UST during
21 that half-hour time period?

22 A. I don't remember the exact number, but as I said earlier,
23 they were a significant amount of the buying then.

24 Q. OK. And so if you could just assume for my question that,
25 as a hypothetical, that Jump was doing all the buying of that

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Hendershott - Cross

1 during that time period, OK, would it make sense, then, that
2 the — if you took away all of that buying of Jump's during
3 that time period, that instead of that line going across the
4 top, you would have a line descending down as reflected in
5 Dr. Mizrach's model?

6 A. No, it doesn't make sense. So what you need to assume to
7 get that is that no other buyers would show up. There were
8 lots of other buyers that day. There were some buyers during
9 that time, and you basically have to assume that no one would
10 have bought. So in some ways you've assumed the answer that no
11 one would buy and prices would just fall.

12 Q. All right. So, Dr. Hendershott, but for purposes of my
13 hypothetical, if you took away all of Jump's buying, everything
14 else equal — you're familiar with the concept of all else
15 equal in economics, right?

16 A. Yes.

17 Q. OK. So let's use that familiar economic concept. Take
18 away Jump's buying that is reflected in the line running
19 horizontally across the top, it makes sense that the price
20 would descend like that if you took that away, right?

21 A. So if you assume there were no other buyers and that —
22 even though there were lots of other buyers that day, and you
23 assume that the sellers would have continued selling when they
24 never sold at prices really that low, then you could get
25 something like what you're saying. That's sort of the all else

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Hendershott - Cross

1 equal. And it's just not plausible in this case because we saw
2 lots of other buyers, and we never saw sellers selling at a
3 dime that day.

4 Q. OK. But you have no reason to disagree with Professor
5 Mizrach that during that half-hour period Jump accounted for
6 almost all of the buying, right?

7 A. I used a different term. But Jump was — I believe they
8 were more than half the buying and probably even more than
9 that.

10 Q. More than 90 percent?

11 A. I don't remember the exact number. That might be right.

12 Q. OK. And we could take that down.

13 Professor, you would agree that Dr. Mizrach created a
14 VAR model in this case, right?

15 A. Yes.

16 Q. And I think you testified on direct you did not construct
17 your own model to determine the impact of Jump's trading on the
18 price of UST surrounding the May 2021 depeg event, right?

19 A. That's right. I made some modifications to his model but
20 didn't do my own.

21 Q. But just so we all understand, you could have done your own
22 price impact model, right?

23 A. Oh, yeah. It didn't seem necessary given the facts, but I
24 could have.

25 Q. And you know how to create such a model?

O44HSec2

Hendershott - Cross

1 A. I've estimated such a model many times, yes.

2 Q. And you've used vector autoregression models in your
3 academic work, right?

4 A. Yes. Never made the mistakes that Dr. Mizrach made here,
5 but I've used them.

6 Q. Did defendants instruct you not to build your own model?

7 A. No.

8 Q. So you decided on your own not to build a model?

9 A. That's right.

10 Q. You mentioned that you previously testified at trial on
11 behalf of the SEC in a different case, right?

12 A. Yes, the only time I've testified before a jury before this
13 was for the SEC.

14 Q. And, in fact, Mr. Henkin asked you several questions about
15 your work for the SEC and even asked you questions about
16 whether the SEC contacted you to work on other cases, right?

17 A. Yes, I've talked to the SEC a number of times.

18 Q. And in that other case, the SEC hired you to testify as an
19 expert similar to how Terraform hired you here, right?

20 A. I don't know if I'd say it's similar, but, yeah, I
21 testified on behalf of the SEC in that case.

22 Q. And that case was *SEC v. Lek Securities Corp.*, right?

23 A. Yes.

24 Q. And the *Lek* case went to trial in this very courthouse in
25 2019, right?

O44HSec2

Hendershott - Cross

1 A. Yes, it did.

2 Q. And just by some background of your testimony in that case,
3 in that case you offered an opinion that the defendant had been
4 engaging in a strategy to manipulate the price of various
5 stocks, right?

6 A. My language was probably more careful than that, but they
7 behaved in a way that was consistent with that.

8 Q. OK. But, specifically, you opined that the defendant was
9 attempting to, whatever word you want to use, but I'll say
10 manipulate stock prices by placing very large orders to buy
11 stock that it was not intending to buy so that the price would
12 go up, and then the defendant would sell the same stock, right?

13 A. The layering — I don't know that I would say very large
14 orders, but, yes, they were placing orders on one side of the
15 market to benefit their orders on the other side.

16 Q. And when you say "on one side of the market," so in other
17 cases they would place sell orders for stock they were not
18 intending to sell so that the price could go down, wouldn't
19 they?

20 A. And it might be the reverse as well; they would place sell
21 orders that I referred to as non-bona fide to benefit their buy
22 orders.

23 Q. And in that case the problem with that type of trading
24 strategy, in your opinion, was that though it benefited the
25 defendant, it misled the market about supply and demand, right?

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Hendershott - Cross

1 A. If you place orders in the market that you don't intend to
2 execute, that can mislead the market.

3 Q. And is it fair to say that the general economic principle
4 behind the testimony you offered in the *Lek* case is that as
5 there is more demand in the market for a security, prices tend
6 to go up?

7 A. I don't know that I offered that particular opinion in that
8 case. But as I said earlier, when you have more active buy
9 trades, prices go up, more sell trades. And I talked about the
10 sell side limit order book pressure, so —

11 Q. And, indeed, it's been confirmed in the academic literature
12 that supply and demand affect prices, right?

13 A. So unexecuted orders have a small impact on price, yes.

14 Q. And my question, sir, it's been confirmed in academic
15 literature that supply and demand affect prices?

16 A. Oh, the unexecuted orders was, I thought, what you were
17 referring to as supply and demand.

18 Q. OK.

19 THE COURT: I'm unclear. Are you referring to just
20 orders in general?

21 MR. CARNEY: In general, your Honor, yes. Thank you.

22 THE COURT: So supply and demand do affect prices in
23 executed orders, right?

24 THE WITNESS: Oh, certainly in executed orders. And
25 in unexecuted orders, they have a much smaller effect.

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Hendershott - Cross

1 THE COURT: I understand.

2 THE WITNESS: OK.

3 MR. CARNEY: Thank you, your Honor.

4 BY MR. CARNEY:

5 Q. And to follow up on His Honor's question, executed orders,
6 trades, have a bigger impact than unexecuted orders, right?

7 A. That's right. A buy order that trades right away has a
8 bigger impact than a buy order that is done passively.

9 Q. And in this case we're talking about trades that have
10 actually executed, right?

11 A. Dr. Mizrach's model was on trades that have actually
12 executed.

13 Q. And one of your criticisms of Dr. Mizrach's model is that
14 you claim it does not account for the trading of other
15 entities, right?

16 A. We talked about that earlier. It leaves out the trades
17 where Jump wasn't a participant.

18 Q. And specifically, you've criticized Dr. Mizrach's assertion
19 that his model accounted for other entities trading via
20 inclusion of the mid-quote, is that fair?

21 A. Yeah, I tested that assumption.

22 Q. Now, when you testified for the SEC in the *Lek* case, you
23 were focused on a trader called Avalon, right?

24 A. Avalon was a customer of *Lek*. That's what I remember.

25 Q. And you found that Avalon earned substantial revenue by

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Hendershott - Cross

1 engaging in the trading techniques that we've been discussing,
2 right?

3 A. My — my language was more careful than that, but the
4 spoofing and layering, the behavior that they were consistent
5 with that, did — they made money on that, yes.

6 Q. But in the *Lek* case, you recognized that the activities of
7 other traders besides Avalon could have impacted market prices
8 during the period you were looking at, right?

9 MR. PATTON: Objection, your Honor.

10 THE COURT: Overruled.

11 A. There were 700,000 instances I looked at there, and with
12 that many, you would expect them to average out. But, yes,
13 they could affect them.

14 Q. But your analysis in the *Lek* case did not do anything to
15 attempt to filter out the impact of the other market
16 participants on any price movement that you observed, right?

17 A. I don't remember calculating a price impact in that case.
18 But, no, I just — I looked at *Lek* trading, and it was over
19 many, many instances.

20 MR. HENKIN: Objection.

21 THE COURT: So I will leave the answer, but when
22 there's an objection, you need to pause to give me a chance to
23 rule on the objection. But the objection is overruled.

24 MR. CARNEY: Thank you, your Honor.

25 Q. Just so you understand my question, in that case, *Lek* case,

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Hendershott - Cross

1 you didn't do anything to attempt to filter out the impact of
2 other market participants on any price movement that you
3 observed, right?

4 THE COURT: Asked and answered. Sustained.

5 Q. And in that case you did not specifically look at the
6 activity of other market participants to determine whether or
7 not that activity had an impact on price, right?

8 MR. HENKIN: Objection. Asked and answered.

9 THE COURT: No, that's a slightly different question.
10 I'll allow it.

11 A. So that was a case about many different stocks over many
12 different days, so it was less important. Here, it's about one
13 coin or one token over one day. So you don't expect the
14 averaging out to happen. But, no, I didn't do it in that case.

15 Q. And in that case you said the reason you didn't look at
16 other market participants was because you had been asked to
17 think about the Avalon traders, right?

18 A. I don't remember. That was five years ago. If my
19 testimony says that, it says what it says.

20 MR. CARNEY: Could we please pull up, just to show the
21 Court and the witness, October 28, 965:14 through 22.

22 Your Honor, could I read that into the record and
23 publish it?

24 THE COURT: Yes.

25 MR. CARNEY: Thank you.

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Hendershott - Cross

(Reading)

"Q. And your analysis does not specifically look at the activity of other market participants to determine whether or not that activity has an impact on price, correct?

"A. That wasn't the question I was trying to be asked. I mean, in some sense we see the other market participants. When the Avalon traders place lots of loud orders on the buy side, the price is more likely to go up, which is to some extent what other traders do. But I was asked to think about the Avalon traders."

And we could take that down. Thank you.

Q. And, professor, you understand in this case Dr. Mizrach was asked to focus on Jump's trading, right?

A. I believe that's what he was asked to do.

Q. And you also opined in the *Lek* case that you looked across the average of all traders, so other traders' actions should average out if there are some things happening by chance, right?

A. As I talked about earlier, there were — that was over lots of stocks and lots of days, and so you would expect things to average out there.

Q. And you further opine in that case that other market participants' activities would be reflected in the price changes caused by the Avalon traders' orders, right?

A. Certainly, they could be.

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Hendershott - Cross

1 Q. But in this case, just so I understand, you're testifying
2 that it was necessary for Dr. Mizrach to examine the activities
3 of other traders, right?

4 A. In this case I tested whether or not the assumption in his
5 model was true, and it was not.

6 Q. OK. And in the other case, you didn't look at the activity
7 of other traders, right?

8 A. I didn't put them directly in my model, no.

9 Q. All right. Professor, you criticized Dr. Mizrach's price
10 impact analysis as being economically nonsensical because you
11 claim the price impact measure suggested the price would have
12 been negative without Jump's intervention, right?

13 A. Yes.

14 Q. For example, in your expert report, you say because
15 Professor Mizrach's model predicts that Jump had a price impact
16 of \$1.30, he is, in essence, saying that in the absence of
17 Jump's trading, that price would have been around negative
18 30 cents, is that right?

19 A. Yes, that's similar to the calculations Dr. Mizrach did in
20 his report.

21 Q. And you pointed out in your report that the actual price
22 change from the lowest point to the highest point on May 23,
23 2021, was only 14 cents, is that right?

24 A. That sounds right.

25 Q. And you measured that by comparing the low of 85 cents to

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Hendershott - Cross

1 the high of 99 cents on May 23, 2021, right?

2 A. That calculation is from the low and the high, yes.

3 Q. Let me ask you, professor, in the *Lek* case, you testified
4 that the defendant's orders still could have impacted prices
5 even if prices didn't move or moved in the opposite direction,
6 right?

7 A. I'd have to see the exact context, but, yes, orders tend to
8 affect prices.

9 Q. OK. So you would agree with the statement I just said?

10 A. You could ask me again. I was trying to agree in a way
11 that was in my own words, but I'm not — if you ask the
12 question again, I'll try and give strictly a yes-or-no answer.

13 Q. OK. Well, I'll ask you a different one, then.

14 You also opined in the *Lek* case that, even with the
15 defendants putting large buy orders in the market, there could
16 be other things that happen in the market that cause the price
17 to go down, right?

18 A. Yes, that can happen.

19 Q. And you also opine in the *Lek* case that what the literature
20 tells us is that prices would have gone down more if it wasn't
21 for the buy orders on the other side, right?

22 A. That's an average statement, yes.

23 Q. And you understand here that Dr. Mizrach testified that the
24 price of UST would have gone down more if not for Jump's
25 purchases of UST, right?

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Hendershott - Cross

1 A. I'm not sure what you mean by "gone down more," but he
2 certainly thought it would have gone to zero, or very low,
3 without Jump's purchases.

4 Q. Well, in the *Lek* case it was your view that just because
5 prices didn't move in the direction of the defendant's orders,
6 doesn't mean there was no effect, right?

7 A. I wouldn't put it that way, but on average you expect
8 orders to have an effect on prices. That's what I was — I
9 think what that statement's alluding to. So if you put a buy
10 order in, prices may go up, may go down, but on average they go
11 up.

12 MR. CARNEY: Could we please put up October 28, 9:14.

13 Your Honor, I would ask permission to publish and read
14 it into the record.

15 THE COURT: OK.

16 MR. HENKIN: Objection, your Honor. It's not
17 inconsistent.

18 THE COURT: Well, I think it's — the standard is
19 arguably inconsistent. I think it's arguably inconsistent.
20 The jury will determine.

21 Go ahead.

22 MR. CARNEY: Thank you, your Honor.

23 (Reading)

24 "Q. Could Avalon's loud orders still have impacted prices in
25 the other 36 to 38 percentage of layering loops even if prices

O44HSec2

Hendershott - Cross

1 didn't move or even if they moved in the opposite direction?

2 "A. Yes.

3 "Q. Could you explain how.

4 "A. So let's imagine the loud side orders are buys. So buy
5 orders get put in the market, and then there may be other
6 people who put sell orders in the market or there could be
7 other things that happen in the market that cause the price to
8 go down, but what the literature tells us is that prices would
9 have gone down more if it wasn't for the buy orders on the
10 other side. So just because prices don't move in the direction
11 of the loud orders doesn't mean they had an effect, it just
12 would imply there may have been something else going on that
13 was larger than their effect."

14 Q. So, ultimately, in that case, professor, you opined that
15 prices didn't have to move for the defendant's orders to have a
16 price impact, right?

17 A. I don't remember putting it exactly that way, but as I've
18 said, if orders don't execute, they can still affect price.

19 Q. OK. And calculating a particular price impact doesn't mean
20 the price would have declined by that exact dollar amount,
21 right?

22 A. I'm not really sure what that question means.

23 Q. So if someone calculates a price impact of \$1.50, that does
24 not mean that the price actually declined by \$1.50, right?

25 A. It wouldn't necessarily have to.

O44HSec2

Hendershott - Cross

1 Q. Switching topics, professor, you calculated that Jump's
2 profits on intervention trades, what you've called intervention
3 trades or bookstacker trades, were approximately \$400,000 on
4 May 23, 2021, right?

5 A. Yes.

6 Q. And you believe that the profitable trading undertaken by
7 Jump indicates that other traders might have done the same,
8 right?

9 A. Yes, they might have.

10 Q. But — and I think you might have talked about this on
11 direct — you did not analyze whether other traders had the
12 same incentives that Jump had to help restore UST's peg, right?

13 A. No, Dr. Mizrach didn't do an analysis of other traders'
14 incentives and neither did I.

15 Q. But Dr. Mizrach did look at Jump's incentives to restore
16 the peg, right?

17 MR. HENKIN: Objection. Lack of foundation.

18 THE COURT: Hang on.

19 Overruled.

20 Q. Professor, you recall that Jump — pardon me. Let me
21 strike that.

22 Professor, you recall that Professor Mizrach looked at
23 Jump's agreements to acquire large amounts of Luna from
24 Terraform, right?

25 A. He provided some information about that in his report.

O44HSec2

Hendershott - Cross

1 Q. And do you recall how many millions of Luna Jump was
2 entitled to receive under its agreements with Terraform?

3 A. I'd have to see the agreement to be sure, but — and they
4 changed over time. But it was a large number, and it was an
5 option to buy them. So it wasn't that they just automatically
6 got them; they had to purchase them. Maybe it was 60 million.
7 Sounds about right.

8 Q. OK. And focusing back on the \$400,000 profit that you
9 calculated, Jump's trading in bookstacker would not have been
10 profitable if the UST peg was not restored to a dollar, right?

11 A. I think you asked me that at my deposition, and I can't
12 remember my answer. But if — so when you buy UST, if you're
13 going to sell it, then you need to sell it for a higher price.
14 If you're going to mint and — if you're going to burn it and
15 then get the Luna, then you have to be able to sell the Luna
16 for more than what you bought it for for it to be profitable.

17 Q. So if the UST that Jump bought were to decline
18 precipitously, they could not have earned a profit on that UST,
19 right?

20 A. They could have burned it for Luna, and if the price they
21 got for Luna was above what they paid, then they would make
22 money.

23 Q. You understand the prices of UST and Luna are connected,
24 right?

25 A. You can exchange — the mint-burn provides some connection

O44HSec2

Hendershott - Cross

1 to each other.

2 Q. Well, you understand that if the price of Luna were to —
3 pardon.

4 You understand that if the price of UST were to depeg
5 and continue to drop, that it would have a carry-on effect to
6 Luna as well, right?

7 A. It could.

8 Q. And so before Jump took their long position in UST, they
9 didn't know that their trades were going to be profitable,
10 right?

11 A. If they did not — so before you do a trade, you typically
12 don't know whether it's profitable. Usually, you do a trade
13 because you have some estimate about whether or not it would be
14 profitable.

15 Q. In your report you didn't consider whether other traders
16 besides Jump took large long positions when UST was below a
17 dollar on May 23, 2021, right?

18 A. No, there were lots of buyers, but I don't know if they
19 took long positions.

20 Q. And we talked a little while ago, about two minutes ago,
21 about incentives, and understanding incentives are relevant to
22 your opinions as an economist, right?

23 A. Incentives can be relevant in some instances, yes.

24 Q. To be clear, you did not review Jump's agreements with
25 Terra in forming your opinions, right?

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Hendershott - Cross

1 A. I've reviewed them since I filed my reports, but when I did
2 my reports, I hadn't reviewed them.

3 Q. Did you submit a supplement or disclosure indicating that
4 you had reviewed those agreements?

5 A. I didn't submit any supplemental reports.

6 Q. Well —

7 A. Oh, I did, sorry, but they didn't talk about that.

8 Q. In fact, you've submitted three supplemental reports at
9 least, right, or two?

10 A. More data came in, and in particular, it was some of the
11 third-party production that I talked about that helped
12 identify, for example, the genesis — sorry, the Celsius trades
13 that I showed on the 2022 chart.

14 Q. And to be clear, those supplements related to the 2022
15 depeg, right?

16 A. Yes.

17 Q. But you didn't issue any supplements concerning the 2021
18 depeg that we're talking about here, right?

19 A. No.

20 Q. And you did not consider Jump's other financial incentives
21 besides the long position they took in May 2021, right?

22 A. I analyzed their profitability of that position. That was
23 all I did.

24 Q. And you didn't consider Jump's eventual profits from
25 selling Luna after peg was restored in May 2021, right?

O44HSec2

Hendershott - Cross

1 MR. HENKIN: Objection. Foundation.

2 THE COURT: Overruled.

3 A. No, I didn't do that.

4 Q. And you would agree, and maybe this is just common sense,
5 that a trading firm with a large long position in Luna would be
6 concerned about the price of Luna collapsing, right?

7 A. If you had a long position and the price goes down, you
8 would lose money.

9 Q. All right. So you would also agree, then, that a trading
10 firm with a large long position in Luna would be concerned
11 about the price of UST collapsing, right?

12 A. They may be concerned about it.

13 Q. Because they're connected?

14 A. They may be concerned about it if they have a large
15 position in UST. They might be concerned about it if they're
16 thinking about converting their Luna to UST.

17 Q. Let me understand — there's something I meant to ask you
18 about your testimony yesterday.

19 I believe, from looking at the transcript, you said
20 that with respect to Jump that bookstacker was something
21 different, not what they normally did, right?

22 A. I probably said something like that. They built a long
23 position where their market making and arbitrage typically
24 canceled each other out, the buys and sells.

25 Q. All right. Professor, I want to ask you some questions

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Hendershott - Cross

1 about the swap fee mechanism now.

2 In your testimony, you took issue with Professor
3 Mizrach's conclusion about the swap mechanism because — tell
4 me if I got this right — you said that the 14.7 million UST
5 that Jump swapped through the mint-and-burn mechanism was
6 comparable in magnitude with the 15.15 million UST net
7 purchases to which Dr. Mizrach attributes price impact, is that
8 right?

9 A. I said — if that's my exact testimony, I said it, but I
10 said something along those lines, yes.

11 Q. And just so we're clear, the 14.7 million UST that Jump
12 swapped and the 15.15 million UST that Dr. Mizrach talked
13 about, those refer to Jump's net positions on March 23, right?

14 MR. HENKIN: Objection. Vague.

15 THE COURT: Sustained.

16 Q. What does the 14.7 million UST that was swapped through the
17 mechanism refer to?

18 A. That's how much Jump burned for Luna.

19 Q. On May 23, 2021?

20 A. Yes.

21 Q. And the 15.15 million is what you've described as the UST
22 net purchases to which Dr. Mizrach attributes price impact?

23 A. That was their long position in bookstacker.

24 Q. OK. But that 15.15 million that you refer to on direct
25 does not include Jump's net purchases on KuCoin in the UST

O44HSec2

Hendershott - Cross

1 Bitcoin trading pair which Dr. Mizrach says was another
2 3.5 million, right?

3 A. Yes. So the bookstacker buying is all of the — there was
4 not any buying in bookstacker in Bitcoin. That was part of
5 their non-bookstacker trading.

6 Q. So you believe there was no trading of UST Bitcoin on
7 KuCoin through bookstacker?

8 A. That's my recollection, yes.

9 Q. Are you sure about that?

10 A. That's my recollection.

11 Q. OK. And the 15.15 million UST that you refer to does not
12 include Jump's net purchases in any of the other ten UST
13 trading pairs that Dr. Mizrach referred to in his report,
14 right?

15 A. In bookstacker, the graph includes the acquisition of UST
16 and all currency pairs that bookstacker was active in.

17 Q. OK. So you're only — you're not looking at all the UST
18 that Jump acquired; you're only looking at the UST that it
19 acquired in bookstacker?

20 A. Well, what they acquired in bookstacker they acquired in
21 bookstacker, and that graph was about what they acquired in
22 bookstacker.

23 Q. All right. Do you know how much Jump — how much UST Jump
24 purchased net total on May 23, 2021, not just in bookstacker?

25 A. Oh, they purchased other amounts, but I believe

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Hendershott - Cross

1 Dr. Mizrach's calculations on that left out how much they
2 burned, whereas when I showed the graph that included both
3 their buys and sells of UST and their burning activity, those
4 net out to about zero.

5 Q. And, in fact, Jump purchased around 32.5 million UST on
6 May 23, 2021, isn't that right?

7 A. I don't remember the total amount, but they certainly —
8 they bought UST and they sold it and they burned it and they
9 held some of it.

10 Q. OK. But you'd agree that 32.5 million is more than double
11 14.7 million, right?

12 A. They — that sounds — yes, that makes sense.

13 Q. All right. Could we please look at — this is one of the
14 exhibits that you looked at on direct. This is PX 194.

15 I think you said something along the lines on direct
16 that this showed that — I think maybe the word you used was
17 market participants were using the swap mechanism to try and
18 earn a profit during that time period. Did I sort of
19 characterize that right?

20 A. They may have been trying to earn a profit. I mean, that's
21 — I think what I said was that's what the mint-burn mechanism
22 is designed to do is give them an incentive to buy UST when
23 it's below a dollar and then burn it.

24 Q. Do you know which market participants were burning UST
25 during this time period?

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Hendershott - Cross

1 A. Jump certainly was. I don't know about other ones.

2 Q. Do you know if Terraform was burning UST during that time?

3 A. I don't know.

4 Q. Would that matter to your opinion if, besides Jump, most of
5 the other burning was Terraform?

6 A. I don't see how.

7 Q. But you don't know that sort of the market as a whole was
8 burning in this swap mechanism during those days, right?

9 A. These are Dr. Mizrach's numbers. I know how much Jump
10 burned. I don't know who the other people were who were
11 burning.

12 Q. All right. One final set of questions, professor.

13 I want to talk to you about — you offered some
14 opinions about the May 2022 depeg event, right?

15 A. Yes.

16 Q. OK. In May 2022, UST and Luna both collapsed, right?

17 A. The prices both went down, yes.

18 Q. They went down to almost zero, right?

19 A. They were close to zero, yes.

20 Q. And so you would agree that the swap mechanism did not
21 restore the peg in May 2022, right?

22 A. As I characterize it in my report, it was like a run on a
23 bank. And, yes, both prices went down.

24 Q. And I think you said that Terraform Labs attempted to buy
25 UST to support the peg, right?

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Hendershott - Cross

1 A. I believe they did buy, yes.

2 Q. And so it was your understanding that Terraform Labs
3 believed that the way to restore the peg was to purchase large
4 amounts of UST, right?

5 MR. HENKIN: Objection. Misstates his testimony and
6 foundation.

7 THE COURT: Overruled. If it misstates his testimony,
8 he'll say so.

9 A. So the swap mechanism was designed to give people an
10 incentive to buy UST and help restore the peg.

11 Q. OK. My question was, first of all, you talked about on
12 direct that Terraform Labs attempted to buy UST to support the
13 peg in May 2022, right?

14 A. They spent almost \$3 billion trying to support the peg.
15 They had announced this in advance.

16 Q. So Terraform Labs, as you understand it, thought that the
17 way to restore the peg is to buy large amounts of UST, right?

18 A. That's how the swap mechanism is designed to work. The
19 mint-burn is designed to give people incentives. And they said
20 that they would try and do that in future instances where the
21 price fell, and they did.

22 Q. OK. Let me ask you, then, was Terraform buying that UST
23 through the swap mechanism?

24 A. You can't really — I mean, the way the mechanism is set up
25 is you acquire the UST somewhere else and then you burn it

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Hendershott - Cross

1 through the swap mechanism. So you can't really acquire — if
2 you're buying UST, you could either burn Luna to create it or
3 you'd buy it somewhere else and then you could take it and
4 dispose of it using the mint-burn.

5 Q. And so to clarify that, these large amounts of UST that
6 Terraform was buying were off chain, right?

7 A. I believe many of them were, yes.

8 Q. And so to sort of modify my earlier question, it was
9 Terraform's belief that the way to restore the peg was to
10 purchase large amounts of UST off chain, right?

11 A. That — those were the incentives in the swap mechanism,
12 yeah.

13 Q. OK. And if I could ask you one more question.

14 If we could look at what's been marked as Defendants'
15 Exhibit 1807. I apologize. It will be the slide towards the
16 end, I think. Maybe the 12th slide, memory serves me.

17 All right. Professor, this is Defendants'
18 Exhibit 1807, page 11 of 12. This is talking about large UST
19 swaps from wallets of interest prior to the 2022 depeg, right?

20 A. Yes.

21 Q. And if you look over to the right, it appears to be — is
22 it the red circle that indicates Celsius wallet sells
23 25 million UST?

24 A. Yes.

25 Q. And then what happens to the price of UST after they sell

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TERRENCE HENDERSHOTT

1 it?

2 A. The price goes up.

3 MR. CARNEY: Court's indulgence.

4 (Counsel confer)

5 MR. CARNEY: No further questions, your Honor.

6 THE COURT: Any redirect?

7 MR. HENKIN: Yes, your Honor.

8 REDIRECT EXAMINATION

9 BY MR. HENKIN:

10 Q. Professor Hendershott, some redirect questions. Let's
11 start with Plaintiff's Exhibit 664, the paper of yours that you
12 were shown.

13 Is that a final draft of the paper?

14 A. No.

15 Q. OK. It's still being worked on?

16 A. Yes.

17 Q. OK. And just calling your attention to footnote 1 on
18 page 2, you were asked several questions about your citation to
19 Professor Mizrach's 2018 paper. Do you recall that?

20 A. Yes.

21 Q. And I think you said you'd cited it, that paper, one or two
22 or three times previously?

23 A. I cited that paper before, yes.

24 Q. And you cited it because you believed that Professor
25 Mizrach did — let me rephrase the question.

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1 Have you reviewed that paper?

2 A. I've read that paper, yes.

3 Q. OK. Do you believe that Professor Mizrach — that
4 Dr. Mizrach conducted his VAR analysis in that paper correctly?

5 A. Yes.

6 Q. Is that different from your opinion of the VAR analysis
7 that he did here?

8 A. Yes. It's a different VAR. In this, in the one I cited,
9 he properly accounted for active versus passive trading. In
10 his paper, in his analysis here, he didn't.

11 Q. Let's talk about the bookstacker trades that occurred on
12 May 23, 2021.

13 Were the bookstacker trades that occurred during the
14 morning half-hour, the 9:30 to 10 a.m. Central Time, were those
15 active or passive trades?

16 A. There were some of both, but it was more active than
17 passive.

18 Q. And the other two time periods that you marked on the chart
19 where bookstacker was active, were those active or passive
20 trades?

21 A. They were almost entirely passive. There was, I think, one
22 that may have been active because the algorithm was a little
23 slow.

24 Q. You were asked a lot of questions about Cornerstone. Does
25 Cornerstone Research regularly work with blockchain data?

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1 A. Yes.

2 Q. And did you rely on their work with blockchain data for the
3 work that they did for you in this case?

4 A. Yes, I did. Dr. Mizrach didn't point out any issues with
5 our blockchain data.

6 Q. Speaking of that, did Dr. Mizrach have assistance from
7 research firms in doing his analysis?

8 A. I believe so.

9 Q. Do you remember which firms they were?

10 A. I think it was FTI and Integra are their names.

11 Q. Can you tell the jury about FTI and Integra?

12 A. I know less about Integra. I've worked with FTI before.
13 They're a firm like Cornerstone.

14 Q. And it's your understanding Dr. Mizrach had assistance from
15 both of those firms in preparing his opinion?

16 A. I think that's what he said, but we could check his
17 reports.

18 Q. You were asked some questions about buy-sell pressure in
19 connection with the May 2021 depeg. Did Dr. Mizrach's opinion
20 contain any analysis of buy-sell pressure?

21 A. If you're talking about buy-sell pressure in terms of
22 unexecuted orders, no, it didn't.

23 Q. And is that why your opinion didn't contain any such
24 analysis?

25 A. That's correct.

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1 Q. You were asked some questions about the mid-quote and limit
2 order books. Did Dr. Mizrach's opinion show any data about
3 limit order book operations?

4 A. Not beyond the mid-quote and the transaction prices.

5 Q. And is that why your report similarly didn't?

6 A. Correct.

7 Q. On cross-examination you were asked some questions about
8 the red Xs and green Xs — or the green Xs and the red Xs so I
9 have them in order on the charts that you had prepared. If you
10 add the differences between the red and the green dots up on
11 the charts that you prepared, how much do you get as the total
12 price movement between those sets of Xs?

13 MR. CARNEY: Objection. Vague. I don't know how you
14 add red and green dots.

15 MR. HENKIN: I asked about the price difference
16 between the red and green dots.

17 THE COURT: I'll allow it.

18 A. So — and I think Mr. Carney asked me about this. So you
19 look at the green dot when they started —

20 Q. Actually, can I interrupt.

21 Can we pull up just the larger chart.

22 A. That would be easier, because doing it off the top of my
23 head would be hard.

24 Q. Wait, wait, wait. OK.

25 A. There's the first green dot, which is about 95, and then

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1 the red dot shortly after it around 10 o'clock, and that's
2 2 1/2 cents. And then maybe the difference between the next
3 green and red is 1 1/2 cents, so that's 4 cents. And maybe
4 it's a half cent at the end. So 4 1/2 cents, maybe 5 cents is
5 basically how much prices went up between when bookstacker was
6 turned on and turned off accumulated across all three of those
7 instances.

8 Q. And just to go back to one of the questions that I asked
9 earlier, the only instance in which bookstacker was actively
10 trading is, as you use that term, in the period on the far left
11 between 9:30 and 10 a.m.?

12 A. Correct.

13 Q. And is the number that you just described less than the
14 number that Dr. Mizrach predicts for price impact?

15 A. It's much less.

16 Q. You were asked some questions about whether there were
17 buyers — about whether there would have been buyers at prices
18 lower than the prices that were transacted at between 9:30 and
19 10 a.m. Were there, in fact, purchases at prices lower than
20 the prices between 9:30 and 10 a.m. Central Time on May 23?

21 A. Yes, there were.

22 Q. And were those purchases by entities other than Jump?

23 A. I believe so.

24 Q. Mr. Carney asked you some questions about buys by —
25 purchases by Terraform to restore the peg during 2022. Were

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1 those purchases publicly disclosed?

2 A. The fact that Terraform would be trying to purchase was
3 publicly disclosed.

4 Q. Was the formation of the Luna Foundation Guard publicly
5 disclosed?

6 A. Yes.

7 Q. Was the purpose of forming it publicly disclosed?

8 A. Yes, it was.

9 Q. And Mr. Carney phrased his questions as did Terraform — as
10 whether Terraform believed that the way of restoring the peg
11 was through off-chain purchases. Are you aware of any evidence
12 that that was Terraform's belief that it was the way as opposed
13 to a way?

14 A. No.

15 Q. Did Dr. Mizrach's opinion address whether Jump knew that
16 its trades would be profitable on May 23?

17 MR. CARNEY: Objection. Vague.

18 THE COURT: I don't think this is responsive to
19 anything that was on cross. Sustained.

20 MR. HENKIN: Well, actually, your Honor, it was.
21 There were a bunch of questions by Mr. Carney regarding whether
22 people knew that their trades would be profitable.

23 MR. CARNEY: That's true, your Honor.

24 THE COURT: OK. I'll permit it, then.

25 Q. Did Dr. Mizrach's report address whether Jump knew that its

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1 trades on May 23, 2021, in UST would be profitable?

2 A. Not that I remember.

3 Q. And Jump's incentives in trading — with respect to trading
4 or alleged incentives with respect to trading UST was something
5 that Dr. Mizrach assumed, is that correct?

6 A. He —

7 MR. CARNEY: Mischaracterizes the testimony.

8 Q. I'm asking for your understanding.

9 A. I was going to wait for the judge.

10 Q. Yeah.

11 THE COURT: Good idea. I'll allow it.

12 A. So in his report — actually, could you read the question
13 back.

14 Q. Is it your understanding that what Dr. Mizrach referred to
15 as Jump's incentives for purchasing UST were assumptions by
16 him?

17 A. Jump's incentives were assumptions by him? He didn't
18 provide a detailed analysis of, you know, what their — exactly
19 what their incentives were. He provided some ex-post
20 calculation of how much they could have earned. So I didn't
21 really think of it as — he was in some sense assuming that
22 they knew that their incentives were what actually happened in
23 the future.

24 Q. And just so that — could you explain what you mean by
25 "ex-post."

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1 A. Well, so this is — you can look at what happens after the
2 fact, and that might not be the same as what you expect to
3 happen at the time. There's always uncertainty about what's
4 going to happen in the future.

5 Q. Now, you were asked a lot of questions about your testimony
6 in the *Lek* securities case.

7 THE COURT: How much more do you have?

8 MR. HENKIN: Three questions.

9 Q. In the *Lek* case, did you also use a support company like
10 Cornerstone the way you used Cornerstone in this case?

11 A. Yes.

12 Q. So that's when you were employed by the SEC?

13 A. Yes.

14 Q. In the *Lek* case, was there any evidence presented that your
15 model was wrong or that your assumptions were wrong?

16 A. No.

17 Q. And in your view, was the order information in the *Lek* case
18 different from the order information that you were — that you
19 analyzed in this case?

20 A. Yes. It included all the unexecuted orders as well as the
21 trades by *Lek*.

22 MR. HENKIN: Thank you.

23 THE COURT: Anything else?

24 MR. CARNEY: Just very briefly.

25 THE COURT: Go ahead.

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Hendershott - Recross

1 RECROSS EXAMINATION

2 BY MR. CARNEY:

3 Q. Professor, I just want to clear up something, what you just
4 said in response to Mr. Henkin about Professor Mizrach looking
5 at Jump's incentives. Do you recall that set of questions?

6 A. I recall that.

7 Q. And, in fact, Dr. Mizrach in his report and his opinions
8 discussed the incentives Jump had prior to the May 2021 depeg
9 in the form of large amounts of Luna that it was entitled to
10 acquire, right?

11 A. He cited to the Luna loan agreements which gave Jump the
12 option of purchasing in the future.

13 Q. So the incentives that he was talking about were Jump's
14 incentive to protect its large interest in Luna that it could
15 obtain under those agreements, right?

16 A. I believe he was making reference to that.

17 MR. CARNEY: No further questions.

18 THE COURT: Anything else?

19 MR. HENKIN: No, your Honor.

20 THE COURT: Thank you very much. You may step down.

21 (Witness excused)

22 THE COURT: Please call your next witness.

23 MR. LAFFERMAN: Your Honor, at this time we — I may
24 be able to save the Court some time and, instead of calling the
25 custodial witness, just move the documents directly into

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1 evidence.

2 THE COURT: All right.

3 MS. MEEHAN: Your Honor, which documents?

4 MR. LAFFERMAN: Let me identify them for the Court,
5 bring them up. I think it's D1272, D1274 — just for the
6 Court, please — D1275. And I have hard copies if you'd like
7 to take a look, but they're all roughly the same document.
8 It's a snapshot of —

9 THE COURT: I'm not seeing any document. Thank you.

10 MR. LAFFERMAN: Let's go to — yeah.

11 THE COURT: You want to blow it up.

12 MR. LAFFERMAN: Your Honor, may we approach?

13 THE COURT: All right.

14 (Continued on next page)

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1 (At sidebar)

2 MR. LAFFERMAN: Your Honor, this is an email —

3 THE COURT: Hang on.

4 So what are these?

5 MR. LAFFERMAN: These are snapshots of the Jump deal
6 tracker at three different points in time. We're introducing
7 them. Mr. Hunsaker testified as to what the deal tracker said.
8 We are introducing the actual copy of the deal tracker to say
9 what exactly it actually said at those periods of time. We're
10 entitled to introduce an actual copy under the best evidence
11 rule, and it directly rebuts Mr. Hunsaker's testimony as to
12 what is in the actual deal tracker.

13 MS. MEEHAN: And that's exactly our objection, your
14 Honor. They had an opportunity to cross-examine Mr. Hunsaker
15 with these documents when he was here and testified. They
16 chose not to do so. This is improper under 613(b).

17 MR. LAFFERMAN: Your Honor, 613 only applies to a
18 witness' prior statement. So there's nothing in here — the
19 first section says (a) showing or disclosing a statement during
20 examination when examining a witness about a statement, prior
21 statement, and then (b) applies to intrinsic evidence of prior
22 inconsistent statement. None of these documents relate to any
23 of his statements. This relates to the best evidence rule
24 about whether or not the evidence is — the best evidence is
25 the actual copy of the document rather than the witness'

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1 testimony about the document.

2 MS. MEEHAN: They're offering it for impeachment, and
3 the witness is no longer here and does not have an opportunity
4 to respond and explain. Also, these are just three snapshots
5 from three different points in time. We don't know if these
6 changed. We've had no opportunity to examine the witness on
7 what they looked like at different points in time, whether
8 anybody made changes to the system.

9 MR. LAFFERMAN: Your Honor, this was actually from the
10 production that they had all the time to — they could have,
11 you know, developed this evidence, called witnesses to explain
12 this evidence. We're introducing these to essentially state
13 what the deal tracker said at three points in time. If they
14 want to argue to the contrary, they can argue to the contrary.

15 THE COURT: It's hard for me to see whether it's being
16 offered for anything other than impeachment, and so in that
17 case, elementary fairness would have required it to have been
18 confronted — that the prior witness should have been
19 confronted with this. Sustained.

20 (Continued on next page)

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1 (In open court; jurors present)

2 MR. LAFFERMAN: Your Honor, I believe we have a
3 stipulation we want to read into the record.

4 THE COURT: Yes.

5 MR. LAFFERMAN: Stipulation regarding transfers of
6 Luna.

7 On August 15, 2020, Tai Mo Shan Limited and Terraform
8 Labs Limited entered into loan confirmations for UST and KRT
9 pursuant to a master loan agreement.

10 On September 8, 2020, pursuant to that master loan
11 agreement, Tai Mo Shan Limited and Terraform Labs Limited
12 entered into a loan confirmation for Luna which permitted Tai
13 Mo Shan Limited to borrow up to 65 million Luna from Terraform
14 Labs Limited. Pursuant to that loan confirmation, Tai Mo Shan
15 Limited could repay any borrowed Luna by returning Luna or
16 paying 0.40 USD per Luna which was a premium to the
17 approximately 0.32 you USD price at which Luna was trading when
18 the loan confirmation was executed.

19 That loan confirmation was amended on April 2, 2021,
20 and July — and July 22, 2021. The amendments did not change
21 the repayment price or the amount of Luna that Tai Mo Shan
22 Limited could borrow or place restrictions on when any borrowed
23 Luna could be traded, but, among other things, amended the
24 conditions Tai Mo Shan Limited needed to satisfy to borrow Luna
25 from Terraform Labs Limited and the time period over which

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1 Terraform Labs Limited would deliver borrowed Luna to Tai Mo
2 Shan Limited.

3 Following the July 22, 2021, amendment, the loan
4 confirmation provided for delivery of the Luna that remained to
5 be delivered pursuant to the agreement by means of one delivery
6 of 4,800,000 Luna by September 1, 2021, and then equal monthly
7 deliveries of 1,200,000 Luna over a four-year period.

8 Tai Mo Shan borrowed 17.9 million of that 65 million
9 Luna from Terraform Labs Limited, which it received on the
10 following dates in the indicated amounts:

11 January 20, 2021, 200,000 — 208,333.33 Luna.

12 January 28, 2021, 666.66 Luna.

13 January 29, 2021, 416,000 Luna.

14 February 9, 2021, 416,666.66 Luna.

15 February 21, 2021, 208,333.33 Luna.

16 March 1, 2021 —

17 THE COURT: How much more do you have of this
18 stipulation?

19 MR. LAFFERMAN: There's a series of numbers. We could
20 have them just entered into the record.

21 THE COURT: I just got a note about a matter that I
22 have to handle in chambers at 12:30. I'm sorry for the
23 interruption. So I want to —

24 MR. LAFFERMAN: Yeah, we can do it when we get back.

25 THE COURT: All right. Ladies and gentlemen, we'll

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1 give you your lunch break now, a little bit earlier, and we'll
2 resume at 1:30.

3 (Jury excused)

4 (Lunch recess)

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AFTERNOON SESSION

1:30 p.m.

(In open court; jury not present)

THE COURT: Please be seated. Let's bring in the jury.

MR. LAFFERMAN: Your Honor, there's one quick matter.

THE COURT: OK.

MR. LAFFERMAN: We would like to submit the following materials as Court Exhibit 5. We have a package. May I approach?

THE COURT: Yes.

MR. LAFFERMAN: And we'd also like to proffer for the record that Court Exhibit 5 contains emails that were only located this week from the 1.4 million-page production by the SEC that was produced eight days before trial, and we were still — and we have still not completed our review of these documents.

Oh, I'm sorry.

THE COURT: OK.

MR. CONNOR: Your Honor, if we could have an opportunity to respond to that.

THE COURT: Yes.

MR. CONNOR: Just as we noted in a conference before the Court, the SEC complied with all of our discovery obligations in the case. We made very clear to the defense in

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1 the discovery process that we were searching the investigative
2 file of this case, which is what we did. The defense submitted
3 a subpoena to Jump Trading for the very documents that they
4 claim we didn't produce. They withdrew that subpoena and did
5 not receive any documents from Jump. And to blame the SEC for
6 the defendants' discovery failures is inappropriate and
7 baseless.

8 MR. HENKIN: Your Honor, we've gone through this
9 before. As Mr. Connor indicated, the subpoena was withdrawn
10 from Jump because the response that we received from Jump was
11 that Jump had produced everything responsive to our subpoena to
12 the SEC and that we should get those documents from the SEC.
13 And so we asked the SEC to produce them, and what we got did
14 not include the exhibits that were — that are included in
15 Court Exhibit 5. So just for the protection of the record,
16 we'd like to make that clear and have them in the record.

17 THE COURT: Well, first, I have not seen anything
18 submitted by the defense from this production that strikes me
19 as material in any respect. Much of it is inadmissible. I
20 also take the SEC's point about that it may not even qualify as
21 a belated discovery. But in any event, you've made your
22 record, and there it is.

23 MR. HENKIN: Thank you, your Honor.

24 THE COURT: All right. Let's bring in the jury.

25 (Continued on next page)

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(Jury present)

THE COURT: Please be seated.

Counsel.

MR. LAFFERMAN: I'm going to continue reading from our stipulation that we had prior to breaking.

THE COURT: Yes, how could we forget.

MR. LAFFERMAN: March 1, 2021, 416,666.66 Luna.

March 8, 2021, 333 Luna.

March 13, 2021, 208,333.33 Luna.

April 7, 2021, 1,041,666.65 Luna.

April 27, 2021, 624,999.99 Luna.

September 9, 2021, 1 Luna.

September 11, 2021, 4,799,999 Luna.

October 1, 2021, 1.2 million Luna.

November 1, 2021, 1.2 million Luna.

December 2, 2021, 1.2 million Luna.

January 3, 2022, 1.2 million Luna.

February 1, 2022, 1.2 million Luna.

March 1, 2022, 1.2 million Luna.

March 31, 2022, 1.2 million Luna.

And May 4, 2022, 1.2 million Luna.

Your Honor, at this time we'd also like to move in — we have a redacted version of the Forbes article that the Court admitted yesterday. I could pass that up.

THE COURT: I admitted the portions that are

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1 referenced in the deposition, if that's what this is, yeah,
2 that's received.

3 MR. LAFFERMAN: And could you please display
4 Exhibit 1960 just for the Court.

5 Your Honor, consistent with the stipulation discussed
6 with the Court yesterday, this relates to Plaintiff's
7 Exhibit 258B. You'll recall that that exhibit was a video
8 scrolling through messages.

9 THE COURT: You say you have one of these blowups as
10 well?

11 MR. LAFFERMAN: Yes.

12 THE COURT: Any objection?

13 MR. CONNOR: No objection.

14 THE COURT: Received.

15 (Plaintiff's Exhibit 258B received in evidence)

16 MR. LAFFERMAN: And we would like to display this for
17 the jury.

18 THE COURT: Go ahead.

19 MR. LAFFERMAN: Mr. Aquino, if you could zoom in and
20 scroll through, please.

21 Thank you, Mr. Aquino.

22 MR. HENKIN: With that, your Honor, the defense rests.

23 THE COURT: All right. Very good. Ladies and
24 gentlemen, you've now heard all the evidence in this case. I'm
25 going to let you go today early because tomorrow morning we

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1 will have closing arguments of counsel followed by my
2 instructions on the law, and so then the case will be yours to
3 deliberate.

4 Now, a couple of things: First, I was hoping, so that
5 we could get both summations fully done in the morning before
6 lunch, that we could start at 9:00. Is that agreeable? Is
7 that a problem for anyone? So we'll start at 9:00 tomorrow
8 rather than 9:30.

9 Secondly, even now don't discuss the case. Once the
10 deliberations start, of course, you could discuss it as long as
11 you'd like.

12 Thirdly, you can take as long as you'd like to
13 deliberate or as little as you'd like, as the case may be. If
14 at 4:30 tomorrow you have not reached a verdict, then you would
15 go home and come back on Monday at 9:30, and whoever you select
16 as your foreperson will make sure that all seven of you are
17 back before you resume deliberations.

18 If you're close to a verdict at 4:30 tomorrow, we can
19 arrange to have you stay until 7:00. That's the latest we can
20 arrange. But there's no point doing that unless you're close
21 to a verdict. So that's entirely your control. But if you do
22 want to stay later tomorrow, you should let us know by, say,
23 4 o'clock so we can make the arrangements.

24 OK. So we will see you tomorrow at 9 o'clock.

25 MR. PATTON: Your Honor, my apologies. Could we have

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1 a quick sidebar before we let the jury go?

2 THE COURT: Sure.

3 (Continued on next page)

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(At sidebar)

MR. PATTON: I don't know if this is necessary or not, but if the jury has the case before lunch —

THE COURT: They won't because, look, it's 90 minutes for the SEC, so that will take us to 10:30. Then we'll give them like a 15-minute break, then we'll 75 minutes from you guys, and then we'll have a half-hour for my charge and that will take us to lunch.

MR. PATTON: Right. I was going to suggest that possibly ordering lunch in for the jury so that they could begin deliberating through lunch.

THE COURT: OK. I think that's a good idea.

MR. PATTON: I don't know if they needed to do any sort of ordering.

THE COURT: No, no, if everyone agrees, that's a good idea. We'll bring them a menu in the morning.

(Continued on next page)

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(In open court; jurors present)

THE COURT: So counsel reminds me if you get the case for your deliberations before you go to lunch, then you need to have lunch in the jury room, and we'll give you a menu tomorrow morning. So if that's the way it works out, you could make your selections, and lunch will be brought in to you so you can deliberate even while you're eating.

All right. Very good. We'll see you tomorrow at 9 o'clock.

(Jury excused)

(Continued on next page)

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(Jury not present)

THE COURT: Please be seated.

All right. Let's turn to the charging conference.

I'm sorry. Were there motions that the defense wanted to make at this point? I assume you renew your previous motions.

MR. PATTON: We renew our previous motion, which I believe Mr. Califano made for us after the close of the SEC's case.

THE COURT: I assume that motion had to be renewed, because otherwise you would lose all sorts of appellate rights. So the motion has been renewed on behalf of both parties, and it is denied.

OK. Let's turn to the charging conference. So first are my general instructions 1 through 10. Any objections or suggestions on any of those instructions from — I'll start with the SEC. You handed up a few minutes ago some proposed edits. Let me see if any of those are —

MR. KORNBLAU: Did we get those?

MS. CUELLAR: None of them are to your first ten instructions. No objection from the SEC.

THE COURT: I'll read them into the record.

Anything on the first ten from defense?

MR. KORNBLAU: Yes. I'm sorry, your Honor. Getting distracted. One small point. Instruction No. 8.

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1 THE COURT: We no longer have remote testimony.

2 MR. KORNBLAU: Exactly.

3 THE COURT: Right. Thank you very much for catching
4 that. It will just be depositions, and the last paragraph is
5 removed.

6 Anything else in the first ten? OK. Then —

7 MR. KORNBLAU: Wait, wait.

8 MR. CHESLEY: On instruction 10 — are we on 10, or
9 getting to 10 after?

10 THE COURT: What on 10?

11 MR. CHESLEY: So, your Honor, the last sentence of the
12 second paragraph which refers at the end to the jury may be
13 permitted to draw an inference that the withheld information
14 would have been unfavorable to the defendants, we think that
15 that has to — if it's going to be included, has to come after
16 the instruction at the end of the following paragraph which
17 notes that the inference may be drawn against one or more
18 parties in this case who are closely associated with the
19 witness. We think it's confusing to the jury to say the
20 inference may be drawn against the defendants and then only
21 later explain that they have to make a finding that the parties
22 are closely associated with the witness for the inference to be
23 drawn.

24 THE COURT: Hold on a minute.

25 MR. CHESLEY: Your Honor, we think we can strike the

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1 sentence that begins "however" in that second paragraph without
2 losing any meaning in the instruction.

3 THE COURT: No, I think I want to make clear that in
4 civil cases, but I think your point can be satisfied by saying:
5 "You are permitted but not required to draw the inference that
6 the withheld information would have been unfavorable to one or
7 more parties," right? Isn't that your point?

8 MR. CHESLEY: Yes, your Honor, that would be fine.

9 MS. CUELLAR: Your Honor, the SEC would object to
10 that.

11 THE COURT: Pardon?

12 MS. CUELLAR: The SEC would object to that.

13 THE COURT: Because?

14 MS. CUELLAR: The adverse inference can be found
15 against the defendants. It cannot be found against the SEC
16 here. We do not have a close association with any of these
17 three. Their interests are not aligned with us. There's no
18 plausible argument that any of these three defendants — excuse
19 me, three individuals are remotely meet even one of the four
20 *LiButti* factors. It's either against the defendants or not at
21 all.

22 THE COURT: But I think I want to say one or more
23 defendants because it's not necessarily against both.

24 MS. CUELLAR: That's acceptable, your Honor.

25 THE COURT: All right. I'll change that to one or

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1 more defendants.

2 MR. CHESLEY: Your Honor, just one more comment on
3 that point.

4 THE COURT: Yes.

5 MR. CHESLEY: We do think it's important for the jury
6 to understand that they have to make a determination that the
7 witness has a close association with the party against whom the
8 inference is drawn. That instruction is at the end of this
9 instruction. We just think it's confusing that it comes after
10 the instruction that it may be drawn against the defendants.

11 THE COURT: Well, I think the way to address that is
12 not to change the order but to say — make it part of that same
13 paragraph and make it "specifically if," and then we get into
14 the sentence that you wanted. So after one or more defendants,
15 it will be in the same paragraph, the next sentence will read
16 "specifically if," and then that entire following sentence and
17 then the last sentence.

18 MR. CHESLEY: Understood, your Honor.

19 THE COURT: Very good. Now, instruction No. 11, which
20 is about sort of an overview, and the SEC, in what they handed
21 up, had two proposed charges, the second of which I agree with,
22 which is in the 11th line — no, I'm sorry. It's the end of
23 the tenth line, the sentence that begins "The second alleged
24 scheme is that defendants deceived investors into believing
25 that a company called Chai used Terraform's technology," and

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1 you want to change "technology" to "blockchain," and that's
2 fine.

3 And then do you want to also change at the end of the
4 sentence or leave the "technology" there?

5 MS. CUELLAR: Yes, your Honor. Apologies.

6 THE COURT: Pardon?

7 MS. CUELLAR: Apologies. Yes, your Honor.

8 THE COURT: So both those are changed.

9 Now, the earlier one is the SEC wants in the sentence,
10 the second sentence of the instruction: The SEC alleges that
11 each of the — that each of the defendants engaged in each of
12 two fraudulent schemes involving false or misleading
13 statements, and then they want to add "or fraudulent conduct."

14 What are you talking about?

15 MS. CUELLAR: Your Honor, that's our attempt to
16 incorporate that we, of course, also charged 10b-5(a) and (c)
17 and 17(a)(1) and (3), the scheme liability, your Honor,
18 which —

19 THE COURT: I'm not asking that question. I'm asking
20 what theory of fraud are you asserting here that is not
21 premised on either a false or misleading statement.

22 MS. CUELLAR: The actual sham transactions on the
23 blockchain. We have testimony, your Honor, from Jonathan Kol
24 and Boris Revsin that one of the things investors analyzed, or
25 at least more sophisticated investors analyzed, is blockchain

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1 activity. And by creating those sham transactions on the
2 blockchain, even without statements, they are committing
3 fraudulent conduct. Then when you looked at Jump's actual
4 trading — or I can pause there, your Honor.

5 THE COURT: I'm sorry?

6 MS. CUELLAR: I can pause there.

7 THE COURT: Well, in your opening statements, did you
8 say anything?

9 MS. CUELLAR: I defer to my colleague.

10 THE COURT: I remember two schemes with their nice
11 little labels, and this is not that.

12 MS. STAREN: Yes, your Honor. We did speak relating
13 to the two schemes, and one was we referred to as the Chai
14 scheme and one we referred to as the Jump scheme.

15 THE COURT: Yes.

16 MS. STAREN: The Chai scheme has, obviously, the
17 portion of it that relates to the material misreps about Chai
18 using the blockchain, but I think what we wanted to incorporate
19 into that is that separate idea, which I think I did mention in
20 the opening, which was that idea of the fake transactions. And
21 I think, while your Honor's absolutely right, the fake
22 transactions were ultimately misleading in part because of the
23 way that Do Kwon and Terraform described them to the public as
24 being actual Chai transactions happening on the blockchain, but
25 I think, standing alone, they are also inherently deceptive

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1 acts because the blockchain is public. So when you put
2 transactions on the blockchain, you're creating, essentially,
3 the idea that there are actually people that are behind each
4 one of those something like 2.7 million wallet addresses that
5 are trading KRT back and forth.

6 THE COURT: Well, the jury is not going to understand
7 by a catchall phrase "or fraudulent conduct" anything as
8 specific as that. If you want to propose some specific
9 language that you think is supported by the evidence, I'll
10 consider it, but I'm not going to give — to say "or fraudulent
11 conduct" just suggests there's some unclear, unknown something
12 out there. To the extent it rests on a false statement by Do
13 Kwon, of course, that fits within the present language, but to
14 the extent it relates to a phony trade is what I hear you
15 saying that he then used, I'll consider some language there,
16 but I'm not going to use your broad language.

17 MR. KORNBLAU: Your Honor, may I be heard on that
18 point?

19 THE COURT: Yes.

20 MR. KORNBLAU: Your Honor, at this point the operative
21 document governing the SEC's claims is the pretrial order which
22 articulates very clearly for both Chai and the 2021 depeg a
23 theory based on false or misleading statements or omissions,
24 not conduct. So it's way too late to be adding new theories.

25 THE COURT: I agree with you, but I'm going back.

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1 Where in the pretrial consent order is the reference to this?

2 MR. CONNOR: Yes, your Honor, this is specifically
3 mentioned in the pretrial consent order, and it is in paragraph
4 No. — page 20, No. 2. I'll read it: "Defendants acted
5 negligently or with scienter when they copied actual Chai
6 transactions onto the Terraform blockchain." And that is the
7 deceptive conduct that Ms. Cuellar was referencing.

8 MR. KORNBLAU: That references negligence. That's a
9 state of mind allegation, that's not a liability.

10 THE COURT: Well —

11 MR. CONNOR: It also references scienter.

12 THE COURT: No, I think that is enough to — what I'm
13 trying to get at is a more narrow way to express that. So
14 false or misleading statements or deceptive trades?

15 MR. CONNOR: Deceptive conduct or deceptive trades.
16 We prefer deceptive conduct, but we understand if your Honor
17 believes that's too broad. And the reason I've referenced
18 that, we have a similar allegation with respect to Jump. And
19 contrary to defense counsel's representation of the pretrial
20 order, with Jump we also have allegations that they secretly
21 arranged for Jump to make bulk purchases of UST to drive the
22 price back to \$1, and the defendants acted with scienter or
23 negligently when they secretly averaged for Jump to make bulk
24 purchases. So that is the deceptive conduct we're referring to
25 there, and I think that's the instruction that we'd request.

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1 MR. KORNBLAU: Your Honor, there's nothing deceptive
2 about any of that. Making trades, copying actual transactions,
3 it's just not fraud.

4 THE COURT: Oh, no, no, it if the purpose of copying
5 them is to create the misleading impression that these are Chai
6 customers utilizing the Terraform blockchain to carry out their
7 purchases when, in fact, it's just a copying of what they did
8 using other methods. I think that does and indeed is partly
9 summarized in the prior page as part of, but I think I want to
10 get a more narrow way to describe that.

11 How about "and/or misleading statements" or —

12 MS. CUELLAR: Your Honor, what about "deceptive acts"?
13 I think that was mentioned in *Rio Tinto*.

14 THE COURT: Let me just see. Hang on one second.

15 Well, I think we can handle it this way: "The SEC
16 alleges that each of the defendants engaged in each of the" —

17 MR. KORNBLAU: Your Honor.

18 THE COURT: — "two fraudulent schemes described below
19 involving false and/or misleading statements or misleading
20 entries." How about that?

21 MS. CUELLAR: So I think with that, your Honor, I
22 think that would cover the Chai conduct fraud, but it couldn't
23 encompass the Jump.

24 THE COURT: Tell me the Jump part again.

25 MS. CUELLAR: So the Jump part is just the actual

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1 entering into the agreement and Jump's trading off chain
2 because, as you heard from Nader George and Mr. Vakil, your
3 Honor, they looked at the Coingecko charts, and they saw there
4 was a brief depeg —

5 THE COURT: No, the allegation there is the
6 misrepresentation, the fraudulent misrepresentation, is that
7 the investors were led to believe that this was the algorithm
8 operating rather than a secret deal. So that's where the fraud
9 lies, isn't it, in the misimpression that was created by what
10 they said about their algorithm and how the protocol works and
11 all that kind of stuff?

12 MS. CUELLAR: Well, I think what Mr. George and
13 Mr. Vakil testified to, your Honor, is they actually looked at
14 the charts, and they saw it rebounded. They didn't actually
15 read specific statements from the company. They, understanding
16 how the algorithm worked from the company, seeing the brief
17 depeg, assumed then that the algorithm had worked. So just
18 having somebody enter in and secretly trade off chain, even
19 without statements, gave the impression from that depeg event
20 that the algorithm worked even without misstatements, your
21 Honor, and so that's the conduct portion.

22 THE COURT: So how about "or misleading trades"?

23 MS. CUELLAR: Yes, your Honor.

24 MR. KORNBLAU: Your Honor, if we can be heard on that
25 one.

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1 THE COURT: Go ahead.

2 MR. KORNBLAU: There was nothing illegal, fraudulent,
3 deceptive about the trades themselves. If the defendants had
4 remained completely silent about ever describing what was the
5 reason or not the reason for the repeg, there'd be no case at
6 all on that point. It's all about the explanation. The
7 trading itself is completely lawful and unproblematic.

8 THE COURT: But that's not true even — I'm not sure I
9 agree with you, but assuming we still have the Chai mirroring,
10 and those are trades — or they're really not trades, actually,
11 they're really —

12 MR. KORNBLAU: For Chai I might suggest --

13 THE COURT: — entries before. Go ahead.

14 MR. KORNBLAU: Sorry. I didn't mean to interrupt the
15 Court.

16 For Chai I might suggest, if your Honor is inclined to
17 broaden it beyond misstatements, why not just include the exact
18 language in the pretrial order and put that as part of the
19 description of the Chai scheme, and it says what it says?

20 THE COURT: Well, I think, for purposes of this
21 sentence, because we do then describe in the next few sentences
22 what's going on, I think maybe the way to handle it is "each of
23 the defendants engaged in each of two fraudulent schemes
24 involving false and/or misleading statements or misleading
25 conduct as described below." That will narrow it, I think,

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1 sufficiently.

2 OK. That was all the SEC had. Anything on
3 instruction 11 from the defense?

4 MR. KORNBLAU: Yes, your Honor. At the end of the
5 first paragraph, we would request that the Court include a
6 sentence to the effect that the defendants deny both of the
7 SEC's claims.

8 THE COURT: Yes, I think that is fair. Both
9 defendants deny these allegations, yes?

10 MS. CUELLAR: Yes, your Honor.

11 THE COURT: Yes, OK.

12 Anything else from the defense on 11?

13 OK. Let's go to 12. Now, 12 is just my instruction
14 on securities. I had one question. Is there anything — maybe
15 I'm just forgetting it — is there anything in this case about
16 wLuna as opposed to Luna?

17 MS. CUELLAR: Off the top of my head, your Honor, I
18 know that Brian Curran testified about wrapped Luna. He
19 testified about what it was.

20 THE COURT: Yes, I remember some testimony about what
21 it was, but I'm saying in either of the frauds is there
22 anything involving wLuna?

23 MR. HENKIN: I don't believe so, your Honor.

24 MS. CUELLAR: We have a stipulation that, of course,
25 wrapped Luna was offered and sold in the markets.

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1 MR. HENKIN: But I think your Honor's question —

2 THE COURT: I think it would clarify — unless the SEC
3 feels strongly about that, I think it would just make things
4 simpler to just take out wLuna.

5 MR. HENKIN: I think, your Honor, the issue is has the
6 jury really heard about wrapped Luna? I think the answer to
7 that is no, and you're right, it would be simpler.

8 MS. CUELLAR: Your Honor, we believe that the evidence
9 is in the record about wrapped Luna.

10 THE COURT: OK. I'll leave it in. It's a minor
11 point. It's not worth — if it was on consent, that would have
12 been a different question.

13 Now we turn to 13, and here we have a lot of things
14 from the SEC that I am very reluctant to include. The SEC
15 wants me to, first, put in all the language from the statute.
16 So they would have — on the three essential elements, they
17 would have as the first element: First, that the defendant you
18 are considering in the offer or sale of UST, Luna, or wLuna,
19 either (1) employed any device, scheme or artifice to defraud
20 (2) to obtain money or property by means of at least one false
21 or misleading statement about a material matter or (3) engaged
22 in my transaction, practice, or course of business which would
23 operate as a fraud or deceit.

24 My inclination is that language would have no effect
25 other than to confuse a reasonable juror. For example, a juror

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1 might ask what is meant by employing any device, scheme, or
2 artifice to defraud? The answer is in this case it's making
3 false or fraudulent — excuse me, false or misleading
4 statements or deceptive conduct for the purpose of affecting
5 the sale of UST. So this language does nothing but add
6 confusion.

7 MS. CUELLAR: Your Honor, we're not skilled at making
8 things as simple as you are and understandable for the jury. I
9 think what we were trying to incorporate here is that, of
10 course, we have charged scheme liability, so if there's some
11 simple way to —

12 THE COURT: I know you've charged scheme liability,
13 and we can have an interesting discussion, which I'm dying to
14 give you, about the history of that term starting in 1757. But
15 in this case, even assuming, which I think is not the case,
16 that it involves something other than false or fraudulent
17 statements, misleading statements, or deceptive conduct, in
18 this case all you're asserting is false statements, misleading
19 statements, and then the deceptive conduct that we specifically
20 just talked about.

21 MS. CUELLAR: Yes.

22 THE COURT: So I think the only thing to change in my
23 sentence is: "First, the defendant you are considering in the
24 offer, sale of UST, Luna, or wLuna made at least one false or
25 misleading statement or misleading conduct regarding a material

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1 matter."

2 MS. CUELLAR: Agreed, your Honor. I just didn't know
3 if there was some way we have to capture the 17(a)(2)
4 requirement for obtaining money or property if that is in
5 dispute with the defendants.

6 THE COURT: That I want to get to in a minute. That
7 raises a more difficult issue that I'll get to in a second.

8 So then this would also eliminate all this stuff you
9 put in about with respect to the first element subsection (1)
10 and (3), fraud is a general term which embraces all the efforts
11 and means that individuals devise to take advantage of others
12 by deception. This is adding nothing that is helpful to the
13 jury.

14 Now, I think that it is true that the statements have
15 to be fraud for the obtaining of money or property. The reason
16 I didn't include that — it would normally come, by the way, in
17 the second element. It would be under intent — is that since
18 it has to be also, under Section 17, in the offer and sale of
19 securities, I think it becomes duplicative. How could you make
20 a statement in the offer and sale of securities that was not a
21 statement for obtaining money or property? And that's why I
22 kept it out, but the — so before we turn to defense counsel,
23 let me just see if there's anything else that the SEC — this
24 is a long —

25 MS. CUELLAR: I think the only other thing within this

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1 is on page 19, your Honor, in the second — in the first full
2 paragraph. We do want to make the reliance point. We
3 anticipate that will be an argument of defense counsel in their
4 closing. It is absolutely the case that the United States
5 Securities and Exchange Commission does not have to prove
6 reliance.

7 THE COURT: Yes, I agree with that. Let me just see.

8 First, going back to page 18, I think we should change
9 the paragraph that begins "In its closing argument, the SEC
10 specified the statements and conduct made by one or both
11 defendants that it claims are misleading," and then . . . "it
12 must prove that at least one of these statements or conduct was
13 either materially false or materially misleading" . . . and
14 then "you must be unanimous," etc.

15 Then going to page 19, "No actual investment is
16 required." And the SEC is not — is also not required to prove
17 that any investor actually relied on any false or misleading
18 statement or conduct, right?

19 OK. Then you have, going all the way to the third
20 element, you want me to underline as to the third element.
21 Good catch. That's to correspond to the underlining in the
22 other elements. That's the kind of correction I really
23 appreciate.

24 Anything else?

25 MS. CUELLAR: Your Honor, just back to the "obtain

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1 money or property" and whether it's duplicative. Obtaining
2 money or property, we don't think is duplicative of an offer
3 because it presumes a sale.

4 THE COURT: All right. I'll put it in if you want it
5 in. If you think you're safer having it in, that's OK with me.
6 I thought, in the facts of this case, it was a redundancy, but
7 I don't have any problem including it in.

8 MS. CUELLAR: If the defendants do not think it's in
9 dispute and want to concede that on the record, but otherwise I
10 think —

11 THE COURT: Let's see where that goes.

12 MS. CUELLAR: And it's just for 17(a)(2), of course,
13 your Honor, as you know.

14 THE COURT: The second element — statement — with an
15 intent instead of "to materially impact investors," let's see
16 how you have it. Hold on.

17 MS. CUELLAR: Maybe, your Honor, because it sort of
18 implies obtaining money or property for each subdivision, maybe
19 that could just be at the end and its own —

20 THE COURT: I'm sorry?

21 MS. CUELLAR: Maybe adding the "obtained money or
22 property" in that paragraph would make it too confusing. Maybe
23 it could just be at the end and be its own sentence perhaps.

24 THE COURT: Maybe we can — I think maybe if you go to
25 page 19: The second element relates to the state of mind with

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1 which the materially false or materially misleading statements
2 were made — statement or conduct was made by the maker. There
3 are three possibilities here, from the highest in terms of
4 fault to the lowest. The first possibility is the defendant
5 made the statement intentionally, that is, with knowledge that
6 it was false — why don't we change that to "made the statement
7 intentionally and fraudulently, that is, with knowledge that it
8 was false and with an intent to obtain money or property and
9 to" — "or money and property."

10 MR. KORNBLAU: Your Honor, may I interrupt for a
11 second?

12 THE COURT: Yes.

13 MR. KORNBLAU: With all due respect, I believe the law
14 is this is a separate element. It's not intent-based. The
15 defendant actually has to receive money or property. It's not
16 about intent.

17 THE COURT: Oh, no, that's clearly not true.

18 MR. KORNBLAU: No?

19 THE COURT: That is — well, I shouldn't say that so
20 quickly. My notion of what the term "scheme" as historically
21 added is that if you devise a scheme to defraud someone but
22 never actually carry it out, you still violate the statute.

23 MR. KORNBLAU: Not 17(a)(2), I don't think. You have
24 to obtain money or property.

25 THE COURT: Well, let's —

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1 MR. CONNOR: Your Honor, may the SEC be heard on this?
2 I think the confusion is your Honor's absolutely correct on
3 scheme liability. 17(a)(2) is just about false and misleading
4 statements. So I think our position is on the obtaining money
5 or property, that only applies to 17(a)(2), not to 17(a)(1) and
6 17(a)(3), and it also can be satisfied on a negligence basis as
7 far as liability is concerned.

8 So perhaps an easy way would be to add a statement at
9 the end that with respect to the misstatement claims on
10 17(a)(2) or —

11 THE COURT: I don't want to give the jury 17(a)(1),
12 (a)(2). They don't know what the hell that means. That's just
13 another recipe for confusion.

14 MR. CONNOR: I agree.

15 THE COURT: Now, if you're saying that something more
16 is required under one of those provisions than under another,
17 then I think the place to work that in is where we're
18 describing some other element that only applies to one like
19 intentionally and recklessly, and so forth.

20 All right. I see the point, though, and I will make
21 an adjustment along those lines. I don't think it should be a
22 separate element, but I agree it should be there for (a)(2).
23 And for (a)(1) it should be in as part of the intent, and
24 (a)(2) it should be in for the actuality, it occurring. So I
25 will work that out.

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1 Anything else from — first of all, anything else from
2 the SEC?

3 MS. CUELLAR: No, your Honor.

4 THE COURT: OK. Anything else from defense?

5 MR. KORNBLAU: Yes, your Honor. And if you could
6 indulge a bad pun, with respect to the first element, the end
7 there, there's a basic omission because the instructions omit
8 the definition of materiality for an omission. It gives the
9 definition of materiality for a misstatement. And under
10 *Basic v. Levinson*, there's a different standard for an
11 omission, and obviously, for the May 2021 depeg, there is an
12 omission theory. So I believe the instruction needs to tell
13 the jury that an omission is material if there is a substantial
14 likelihood that a reasonable investor would have viewed the
15 disclosure of that fact —

16 THE COURT: As changing the mix.

17 MR. KORNBLAU: As significantly altering the total
18 mix.

19 THE COURT: I think the SEC had requested that
20 originally as well. I will put something in along those lines.

21 MR. KORNBLAU: And on the next paragraph, your Honor
22 references the closing argument, which I think is a frankly
23 neat solution to the problem that we've been debating that
24 ended up in the pretrial order. I would ask one additional
25 word for the Court to consider in the second sentence there

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1 where it begins: "In order for the SEC to satisfy the first
2 element of its Section 17 claim, it must prove that at least
3 one of these" — I would request "specific statements" because
4 there are so many statements that have come in in this trial
5 and —

6 THE COURT: All right. I think I prefer the word
7 "specified," because that is the word in the previous sentence,
8 but that's fine.

9 MR. KORNBLAU: And then I guess I just would like to
10 make — looking ahead to the closing statements, your Honor,
11 generally, we, of course, do not want to object during the
12 SEC's closing, as I'm sure the opposite is true as well, but it
13 is important to comply with this, that in the SEC's closing,
14 they limit their theories to the statements that are detailed
15 in the pretrial order and not go beyond those.

16 THE COURT: Well, so here's what they can say. They
17 can say this statement was false, this statement was
18 misleading, and we've now added the conduct as well. But you
19 may recall that there were a few statements that I allowed in
20 on a 404(b). So when referring to the intent, they can mention
21 those other statements. They should be careful to say, "In
22 assessing the intent, you should also consider this other
23 statement that was made," or something like that, and if it's
24 unclear, you can, of course, make it clear in your summation
25 which will follow. And by the way, I have decided not to give

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1 them a rebuttal.

2 So now something else you just said I agree with up to
3 a point. If someone says something in a summation that is
4 totally outside the record, then the time to object is then.
5 You can object later, but it's much better to object then.

6 So I'll give you an example, which I'm sure won't come
7 up with experienced counsel like that. But I've had summations
8 in which attorneys, in an attempt to be folksy, have said, for
9 example, "The other day the following happened to me." That's
10 not going to happen in my court, and if someone tries that, the
11 other side has full freedom to object right then and there. So
12 for more technical things that may require curative
13 instructions, something like that, that could wait till after
14 the summations are over.

15 So I will at the end of each summation, I'll ask the
16 other side, any reason you need to approach the sidebar? If
17 there's something you think requires a curative instruction or
18 like a 404(b) instruction or a missing witness instruction,
19 then we'll deal with that then. But the one thing that you
20 should feel free to interrupt on is something that's completely
21 outside the record.

22 OK. Anything else? We have two changes that I just
23 agreed we'll make, but I have to work on the wording later
24 today. And we'll get all this to you tonight, so you'll have
25 it before you sum up.

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1 Anything else from the defense? No.

2 OK. Anything on instruction No. 14?

3 MR. KORNBLAU: Yes, we do, your Honor.

4 THE COURT: I'm sorry. First, anything from the SEC
5 on 14? Let me see if you —

6 MS. CUELLAR: No, your Honor.

7 THE COURT: OK. Go ahead. Anything on 14?

8 MR. KORNBLAU: Your Honor, this is just like a
9 clarifying edit I hope you'll agree with. So in the — I'll
10 just read it in. The second sentence says: "While in some
11 cases there are some differences between a Section 17 claim and
12 a Rule 10b-5 claim, on the facts of this case, there is only
13 one difference." No problem there. It's what's follows, "a
14 10b-5 claim," we would say you need to put in there "requires
15 proof of intent or recklessness," or words to that effect.

16 THE COURT: Yeah, I have no problem.

17 MR. KORNBLAU: ". . .and cannot rest on negligence."

18 THE COURT: That's fine. I have no problem with that.

19 OK. Anything else?

20 OK. Anything on 15?

21 MS. CUELLAR: Not from the SEC, your Honor.

22 THE COURT: Anything from defense?

23 MR. KORNBLAU: Nothing, your Honor.

24 THE COURT: And 16 and 17, anything from the SEC?

25 MS. CUELLAR: No, your Honor.

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1 THE COURT: Anything from the defense?

2 MR. KORNBLAU: No, your Honor.

3 THE COURT: Turning to the verdict, anything from the
4 SEC?

5 MS. CUELLAR: No, your Honor.

6 THE COURT: Anything from the defense on the verdict?

7 MR. KORNBLAU: Yeah, I did have a couple of comments
8 for the Court. I think there's a bit — the jury could be
9 confused because in the — by the verdict's use of first and
10 second because in the jury — in the jury instructions, the
11 Court refers to the first claim as the —

12 THE COURT: So you want to make it 1A and 1B?

13 MR. KORNBLAU: Or just the SEC's claim under
14 Section 17 and the SEC's claim under Rule 10b-5. The first and
15 second are sort of in conflict.

16 THE COURT: I see. Well, no, wait, I do have — so
17 one is on the SEC's first claim under Section 17, do you find
18 Terraform liable or not? If you do, you have to indicate what
19 the — whether it was intentional, reckless, or negligent.
20 Then its Kwon for the first claim, same thing, liable or not
21 libel; if not liable, you have to say. Then we turn to the
22 second claim, and there we don't have to get into intentional,
23 reckless, and negligent because we've already eliminated all
24 that. So —

25 MR. KORNBLAU: Your Honor, I didn't make myself clear.

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1 Let me try again.

2 THE COURT: OK.

3 MR. KORNBLAU: In the jury instructions that we just
4 reviewed, in instruction No. 11, it says: "The first alleged
5 scheme is that the defendants falsely conveyed to investors
6 that if the price of UST fell below a dollar," etc., and then
7 they get to the verdict form and first claim means something
8 different.

9 THE COURT: Well, because that's in — no, it's not —
10 I don't think that's accurate because if you look at the
11 instruction 13 that you were — the title which begins on
12 page 18 — ahh, I had it in the table of contents but not in
13 the — OK. So that's a very good catch.

14 So we'll add to the title there "first claim"; and
15 then similarly in instruction 14, beginning on page 21, there
16 we do have "second claim"; and on instruction 15 it should be
17 "third claim." So thank you for catching that. OK.

18 MR. KORNBLAU: Your Honor, as I think your Honor saw
19 from the defendants' proposed instructions, we would request
20 questions going to the elements.

21 THE COURT: Yes, I did know that. I think that — I
22 almost always — not almost always, always have a jury render a
23 general verdict. Once in a very blue moon, usually under RICO,
24 the Second Circuit says I have to ask for something more
25 specific, and that just shows that too many of the appellate

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1 judges have forgotten what it's like to conduct a jury trial.
2 Those are just recipes for confusion. The jury has to reach
3 and in several respects has to be unanimous, as my instructions
4 make clear, various considerations to determine liability. But
5 to ask them to play lawyer and break it down is just, in my
6 view, contrary to what the jury system is all about, so I never
7 do that.

8 MR. KORNBLAU: OK, your Honor. Then one other
9 request. This is designed to —

10 THE COURT: By the way, I understand the Second
11 Circuit asked for that because it makes their job easier, so
12 that's another reason not to do it.

13 MR. KORNBLAU: I'm not going to touch that one, your
14 Honor.

15 THE COURT: I forgot to mention that yesterday when I
16 was sitting by designation on the Second Circuit.

17 MR. KORNBLAU: For consistency with the jury
18 instructions that we just reviewed, I think it would be helpful
19 on No. — or following No. 5, so where you start to ask about
20 Rule 10b-5, to have another question about the intent finding
21 of the jury that includes only intentionally and recklessly and
22 excludes negligently, just for consistency.

23 THE COURT: No, I think it's obvious because we don't
24 ask those questions on that count in the verdict form.

25 MR. KORNBLAU: Well, it's stated in the instructions,

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1 but on the form I'm just concerned that the jury could think,
2 OK, we checked off negligently on 1 through 4, so therefore
3 we're good to go on No. 5, and that's not right.

4 THE COURT: OK. So I'll change No. 5 to — this is on
5 the verdict form — on the SEC's second claim for intentional
6 or reckless violation of Rule 10b-5. I don't think I have to
7 repeat it on 6. Once surely is enough, right?

8 OK. Anything else? I will make those additional
9 changes that I said I needed to work out the exact wording. I
10 will get you, hopefully even before I leave for Columbia at
11 3:30, but in any event, by this evening, the final charge.

12 Unlike some judges, it is my practice to allow counsel
13 to quote from the charge in their summations. However, be sure
14 not to quote out of context, obviously, in which case if it is
15 quoted out of context, that's another place where an objection
16 could be made immediately.

17 The SEC had asked for a few other charges. One was on
18 preparation of witnesses. Of course, I already gave that to
19 the jury. I don't think I need to repeat it unless some
20 argument is made by the defense in their summation about the —
21 its fair game for the defense to say they spent a lot of time
22 with the SEC, but not to suggest in any way, shape, or form
23 that that was improper. So a proper wording would be "As is
24 their right, they spent a lot of time with the SEC, but you can
25 still consider that, ladies and gentlemen, in evaluating their

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1 testimony," or something along those lines. But if there's any
2 suggestion that it's improper, then at that point counsel
3 should raise it, and I will right then, in the middle of
4 summation, repeat the instruction that I previously gave to the
5 jury.

6 With respect to the risk disclosures, they're saying,
7 "You heard some suggestions at trial that investors in
8 cryptocurrency markets should conduct more due diligence,"
9 again, I already gave instruction to the jury, but I would
10 regard any suggestion along those lines by defense counsel in
11 their summation as improper. That somehow there's a greater
12 burden on cryptocurrency purchasers of securities to assume a
13 greater role than is imposed on every other purchaser of
14 securities, that I really have to forbid, anything like that.
15 It was really — I was utterly amazed when Mr. Amani several
16 times, before I finally intervened, made that suggestion. He
17 even talked about some catch phrase that I don't quite
18 remember. The law of caveat emptor was repealed by the
19 Congress of the United States in 1933 so far as securities are
20 concerned.

21 The last suggestion from the SEC is status as
22 whistleblowers. I think that's nothing that should be a
23 discussion from the Court. For the SEC, it's fair to argue
24 that we have this whistleblower program to expose frauds, and
25 to help make it work better, Congress has proclaimed they

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1 should get a reward. And the defense can say that's all fine
2 and good, but it can also lead to false accusations, whatever
3 you want to say in that regard. I think that's all not a
4 question for an instruction from the Court, it's just a matter
5 of argument on both sides.

6 OK. I think I've covered absolutely everything.
7 Anything else anyone wants to raise?

8 MS. CUELLAR: No, your Honor.

9 THE COURT: We will see you at 9 o'clock tomorrow.

10 By the way, I have a telephonic conference on another
11 matter at 8:30. So when you think of something tonight that
12 you want to raise, don't send me an email saying can we get
13 together at 8:45, because I'll be in that conference till
14 9 o'clock.

15 (Adjourned to April 5, 2024, at 9:00 a.m.)
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Exhibit No.	Received
6641599
258B1659